

TECHNICAL MANUAL

AF TECHNICAL ORDER SYSTEM

Prepared By: Automated Technical Order System (ATOS)

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CHAPTER 1

SYSTEM DESCRIPTION AND RESPONSIBILITIES

1-1 PURPOSE.

The purpose of this technical order (TO) is to describe the Air Force TO System established by Air Force Policy Directive (AFPD) 21-3 under the control of HQ USAF/ILMM, specify policies and responsibilities for operation and management of the TO system, and outline general procedures for use of the system. This TO identifies and explains the various types of TOs and the specific policies and procedures pertaining thereto. Changes to this TO shall be submitted in accordance with chapter 5. Acronyms used in this TO are spelled out in Appendix A.

1-1.1 The purpose of the Air Force TO system is to provide concise but clear instructions for safe and effective operation and maintenance of centrally-acquired and managed Air Force military systems and commodities.

1-1.2 The Air Force Vision is to provide all TO users with up to date, technically accurate, and user friendly TOs at an acceptable price. The Air Force position is that new systems will acquire digital data; specifically Standard Generalized Mark-up Language (SGML) tagged files, available at the point of use.

1-1.3 Information about the TO system (points of contact, policy documents, latest policy initiatives, etc.) can be accessed through the world wide web on the TO System Information Page. The page can be read using a browser such as Internet Explorer™ or Netscape™, and entering the Uniform Resource Locator (URL) <http://www.pdsm.wpafb.af.mil/toprac/tosyste.htm>.

1-2 CONCEPT.

Policies for management of the TO system are developed and coordinated by HQ AFMC/ENBP, 4375 Chidlaw Rd, Ste 6, WPAFB OH 45433-5006, and approved by HQ USAF/ILMM. Business practices and procedures for operation of the system are developed and coordinated by MSG/MMF, 4375 Chidlaw Rd, Ste 6, WPAFB OH 45433-5006, e-mail: TOPP@afcpo.wpafb.af.mil.

1-2.1 TOs for individual military systems and commodities are managed by TO Managers assigned by the responsible Single Manager (SM). TO management includes acquisition, maintenance, reproduction, distribution, and storage. Individual TO currency and accuracy is the responsibility of assigned technical content managers (TCMs). Flight Manual Managers (FMMs) [AFI 11-215, Flight Manuals Program (FMP)] are the equivalent of TCMs for FMP publications. Each TO is assigned a unique TO number to facilitate use, indexing and control. The TO system and its operation are covered by this TO and TOs 00-5-2, 00-5-3, 00-5-15, and 00-5-18.

1-2.2 All available formats of a TO (paper, digital medium, electronic file) must be released concurrently (see Glossary) to maintain TO configuration control. TOs are published by authority of the Secretary of the Air Force in accordance with AFPD 21-3. TOs are printed according to DODD 5330.3/AF Sup, *Defense Automated Printing Service (DAPS)*. Air Force TO (AFTO) Forms are developed and controlled according to AFI 33-360, Volume 2, *Forms Management Program*.

NOTE

DAPS is changing their name to “Document Automation & Production Service.”

1-2.3 All situations within the TO system cannot be covered in the 00-5-series TOs; major commands (MAJCOMs) and bases are empowered to develop and document policies and procedures for those situations, using MAJCOM or base supplements. Any procedure not specifically forbidden may be adopted.

1-2.4 Decentralization of TO Management. The TO System Re-Engineering Concept of Operations (CONOPS) for decentralizing management of TOs was signed by HQ AFMC/CC on 5 Jun 95. The CONOPS assigns total responsibility for TOs (content, budgeting, funding, publishing, printing distribution, etc.) to the Single Manager (SM) responsible for the equipment or process covered by the TO.

1-2.5 Joint Computer-Aided Acquisition Logistics Support System (JCALS). This joint services program will modernize the management and operation of the TO system by providing world-wide digital network connectivity, improved management information processing, and the capability to produce, update, store, distribute and use TOs in digital formats. It has replaced the former management system, G022, and will eventually replace ATOS for TO publishing and the functions of ATOMS for TODO account management. It will allow online submittal of TO change requests, replacing the current AFTO Form 22, AF Form 847, and several other processes.

1-2.5.1 “On-Line” versus “Off-Line” JCALS Customers. “On-line” JCALS customers have been assigned a JCALS user profile and a username and password to log into the JCALS system. “Off-line” customers merely interface with JCALS through ATOMS to establish ID for and order TOs.

1-2.5.2 JCALS Desktop Instructions (DI). Procedures for on-line use of JCALS functions are documented in the JCALS DI. This publication may be accessed and downloaded from the TO System Information Page (paragraph 1-1.2). Formal DI updates will be published the first of each calendar quarter, with interim updates (“DI Bulletins”) published as required. All on-line JCALS users must ensure they are using a current copy of the DI and have applicable DI Bulletins. MSG/MMF will notify JCALS site POCs when new DI revisions or DI Bulletins are available. Site POCs must notify JCALS users at their site.

1-3 CENTRALIZED TECHNICAL ORDER MANAGEMENT (CTOM) ORGANIZATION.

The CTOM is the strategic steering group chartered to improve the quality of TOs, define policy and develop procedures required to achieve the Air Force digital TO Vision and Concept of Operations (CONOPS).

1-3.1 The CTOM Organization has a three-tier structure consisting of the CTOM Committee, Executive Steering Group, and ad-hoc work groups (WGs) to solve specific problems.

1-3.2 The CTOM Committee is a working level group that reviews and approves all Air Force policy and guidance relating to the TO system. HQ USAF/ILMM chairs the committee and provides the final authority for the policy. The CTOM Committee meets semiannually as a minimum. MSG/MMF acts as the CTOM Committee manager.

1-3.3 Members¹ of the CTOM Committee are:

HQ ACC/XRPM	HQ AMC/LGQP	HQ AETC/LGMM/DOOE ²
HQ USAFE/LGMM	HQ PACAF/LGMM	HQ ANG/LGMM
HQ AFMC/ENBP/	HQ AFRC/LGQR	HQ AFSOC/LGMM
DOO/DOM ³	HQ AFSPC/LGMM	HQ AFCA/GCSM
AFOTEC/TL	AFSAC/IAS ⁴	HQ AIA/LGMM
MSG/MMF		

NOTES

1. Other activities may participate in the CTOM Committee on a non-voting basis as required to address specific issues. A limited number of ALC and PC representatives will be invited to provide expertise on TO acquisition and sustainment.

2. Single vote, determined by whether subject affects primarily Maintenance or Training.

3. Single vote, normally exercised by ENBP. Exceptions are when Flight Manuals or AFMC Maintenance activities are directly involved.

4. Vote only on subjects affecting Foreign Military Sales (FMS).

1-3.4 CTOM Committee decisions are made using a majority voting system, with one vote per MAJCOM.

1-3.5 The Executive Steering Group consists of the O-6 level or higher counterparts of the CTOM Committee plus SAF/IAXP. Meetings will be held via Video Teleconferencing (VTC) on an ad hoc basis.

1-3.6 Working Groups (WGs) are formed through letters of tasking issued by HQ USAF/ILMM. The WG prepares minutes of each meeting. The CTOM Committee approves or disapproves WG recommendations.

1-3.7 Suggested action items may be submitted by any individual or agency that develops, acquires, or uses TOs, through the parent MAJCOM or Field Operating Agency (FOA) CTOM Committee representative. They will include a statement of the problem or initiative, the suggested corrective action or approach, previous

actions taken by the initiator to correct the problem, and identification of the initiator. The Committee representative will validate the action item, provide any previous actions to correct the situation, determine resources available to work the problem, and any anticipated benefits, costs, and effects on TO system users. The action item will be submitted to the committee manager (MSG/MMF) for inclusion in the next meeting agenda.

1-4 RESPONSIBILITIES.

1-4.1 HQ US Air Force. HQ USAF/ILMM:

1-4.1.1 Monitors compliance with AFPD 21-3.

1-4.1.2 Approves all service tests and studies of new techniques for use in the TO system.

1-4.1.3 Approves updates to 00-series TOs listed in chapter 2. Approves major revisions to all other 00-series TOs.

1-4.1.4 Reviews AFI 11-215 to ensure that FMP policies remain consistent with the TO system, and coordinates TO policy changes affecting FMP manuals with HQ AFMC/DOO.

1-4.2 General. All commands using TOs will:

1-4.2.1 Ensure that AFPD 21-3, AFI 11-215 and 00-5-series TOs applying to the TO system are followed command-wide.

1-4.2.2 Assist AFMC and the Lead Commands in determining the scope of technical requirements data to be included in specifications used for procuring TOs.

1-4.2.3 Assist the TO Manager with TO acquisition according to this TO and 00-5-3.

1-4.2.4 Assist AFMC and the Lead Commands in controlling and reducing costs of TOs.

1-4.2.5 Conduct programs to familiarize command personnel with the TO system, and supplement available training as needed. Identify command requirements for TO System training to HQ AETC.

1-4.3 Air Force Materiel Command. AFMC is responsible for the operation and day-to-day management of the Air Force TO system (00-5 series TOs). AFMC:

1-4.3.1 Is the lead command for developing and coordinating TO system policy and procedures. Obtains Air Force CTOM Committee approval for major TO System policy changes prior to publishing them in 00-5-series TOs.

1-4.3.2 Establishes FMP policies and procedures for the Air Force (AFI 11-215). Provides operational management of the AFMC FMP.

1-4.3.3 Establishes approval and control procedures for flight crew checklists used in experimental, engineering, flight test, and special mission aircraft.

1-4.3.4 Reviews and evaluates all accident and incident reports to detect and correct TO deficiencies.

1-4.3.5 Participates in DOD-directed programs to develop joint procedures for military departments (AFJI 21-301, Instructions for the Inter servicing of Technical Manuals and Related Technology Program).

1-4.3.6 Researches, evaluates and adopts promising new techniques and technology for technical data format, presentation, storage, and retrieval.

1-4.3.7 Manages the Air Force-assigned segment of the DOD TM Specifications and Standards (TMSS) program. Represents the Air Force in the DOD TMSS program. Ensures that Air Force TMSSs and Data Item Descriptions (DIDs) related to TO acquisition are current. Coordinates all revisions or amendments to TMSSs and DIDs with applicable Air Force and other DOD agencies. Reviews and approves/disapproves requests for deviations and waivers to Air Force TMSSs and DIDs. Assists in resolving problems with Air Force TMSSs and DIDs.

1-4.3.8 Budgets for and funds TO sustainment for commodity and budget code 8 equipment TOs.

1-4.3.9 Air Logistics Centers (ALCs) and Product Centers (PCs).

1-4.3.9.1 ALCs and PCs will establish TO Home Offices to act as the central Point of Contact (POC) for TO matters at the Center. Home Offices will present the Center position on command-wide TO System policy

and training initiatives, chair a local TO Integrated Process Team (IPT), assist SMs with resolving TO acquisition and sustainment issues, and disseminate AF and AFMC TO System policy and procedures.

1-4.3.9.2 SMs at each Center will appoint TO Managers and Technical Content Managers (TCMs) for all TOs applicable to the weapon system or commodity group. A listing of SMs is available through the TO System Information page (paragraph 1-1.2).

1-4.3.9.3 SMs will complete a Comprehensive Air Force TO Plan (CAFTOP) Annex and a TO Requirements Plan (TORP) covering their assigned TOs. The Annex and TORP are submitted to the responsible Lead Command in sufficient time to support the TO budgeting and funding process.

1-4.4 Air Force Communications Agency (AFCA): Supports acquisition-related actions for Communications-Electronics (C-E) systems and equipment.

1-4.5 HQ Air Education and Training Command (AETC). AETC will:

1-4.5.1 Designate a command Point of Contact (POC) for TO System training.

1-4.5.2 Assist operating, implementing, and participating commands in defining requirements for developing a training system to include training management system, courseware, devices, equipment, etc., as applicable.

1-4.5.3 Provide personnel to support TO development on military systems and training equipment being procured for AETC, or for non-AETC programs when requested and funded by a System Program Director (SPD). Personnel shall have signature authority for HQ AETC on TO matters during the developmental stage of the TOs.

1-4.5.4 Plan, develop, and conduct training required over the lifecycle of a system.

1-4.6 Air Force Operational Test and Evaluation Center (AFOTEC):

1-4.6.1 Assists MAJCOMs during TO verification per agreement on a program-by-program basis (AFI 99-102, Operational Test and Evaluation).

1-4.6.2 Evaluates system TOs in conjunction with the user as a part of all AFOTEC-managed OT&E.

1-4.6.3 Identifies and reports TO deficiencies according to the approved OT&E plan and the instructions contained in this TO and TO 00-5-3.

1-4.6.4 Assumes the lead in the development of TO evaluation criteria and procedures for Air Force-wide OT&E application based on using command input.

1-4.7 Lead Command:

1-4.7.1 The Lead Command is the weapon system or commodity TO funding advocate and monitors and coordinates on issues affecting TO status and use. Includes all operational and logistics issues (usability, supportability, maintainability, and reliability) for assigned TOs.

1-4.7.2 The Lead Command will ensure Operating and Supporting Commands participate as required in activities to field and sustain assigned TOs.

1-4.8 Operating Commands and Field Operating Agencies:

1-4.8.1 Provide personnel to support TO development and as representatives of the parent command at TO review boards with on-site decision and signature authority, OR delegate the authority to the test activity or operational wing to preclude delays in TO development and delivery.

1-4.8.2 Using commands ensure that command military systems and commodities, support equipment, tools, facilities, consumables and personnel are made available to support verification. When requested by the TO Manager, provide a verification team manager.

1-4.8.3 Command Reviews. The using command, in conjunction with the TO Manager or FMM, determines the need for conducting a post-publication TO review based upon the number of modifications made to affected equipment, the complexity and extent of those modifications and resultant TO updates, and the number of AFTO Forms 22, Technical Order Improvement Report and Reply, or AF Forms 847, Recommendation for Change of Publication (Flight Publications), received since the basic date of the TO or latest change date. The TCM performs currency reviews on unclassified TOs which have not been changed for five years, and on classified TOs annually.

1-4.9 Using Command Verification Requirements. When preliminary TOs (PTOs) or partly verified formal TOs must be distributed, operational units may be required to verify some procedures on site. For operational unit verification, the following requirements and procedures will apply:

1-4.9.1 The unit Product Improvement (PI) office or other responsible function will monitor and control the verification effort. For FMP publications, the unit Standardization Evaluation (Stan Eval) will perform this function. The verification monitor will contact the TO Manager or FMM (identified on the Verification Status Page (VSP)) and request permission to perform unit-level verification of the procedure involved. If necessary, the TO Manager or FMM will arrange for ALC or verification team on-site support. For calibration TO (Category 33K) verification, see TO 00-20-14.

NOTE

For major tasks, such as wing or stabilizer removal and replacement and any task involving nuclear weapons or critical components, on-site ALC or verification team (TO 00-5-3) support must be provided.

1-4.9.2 The operational unit shall determine the availability of personnel, support equipment, special tools, spare parts and consumables required to accomplish the task.

1-4.9.3 When the on-site ALC or verification team (if required) and all support requirements are available, the procedure will be performed under PI supervision. PI will record any discrepancies found during the effort.

1-4.9.4 If discrepancies are found, the procedures will be corrected on-site if at all possible. Major problems, especially those which could cause personnel injury or equipment damage, may require TO Manager or depot support. All discrepancies will be reported using the AFTO Form 22, AFTO Form 27, Preliminary Technical Order (PTO) Publication Change Request (PCR)/TO Verification Record/Approval, or AF Form 847 in accordance with instructions in the TO being verified.

1-4.9.5 Upon successful completion of verification, the TCM or TO Manager will be notified via one of the forms listed above, and the unit will annotate completion on the VSP.

CHAPTER 2

TO SYSTEM SCOPE, POLICY AND WAIVERS

2-1 SCOPE.

The TO System includes all manuals developed or acquired for organic operation, maintenance, inspection, modification, or management of centrally-acquired and managed Air Force military systems and commodities. This includes paper and digital copies of manuals developed to TO MILSPECS, non-embedded personal computer software which automates the function directed by a TO, contractor-developed manuals adopted for Air Force use, and approved commercial-off-the-shelf (COTS) manuals. All manuals managed in the TO System will be given a TO number.

2-2 EXCLUSIONS.

The TO System does NOT apply to publications for:

2-2.1 Contractor-operated experimental equipment designed for research.

2-2.2 Publications for the operation and maintenance of real property or real-property installed equipment as defined in AFI 32-9005, Real Property Accounting and Reporting.

2-2.3 Subjects more suitable for coverage in the Air Force stocklist publication system as specified in AFI 23-106, Assignment and Use of Standard Reporting Designators.

2-2.4 Subjects more suitable for coverage in standard publications (AFI 33-360, Volume 1, Publications Management Program) and subjects covered in other specialized publication systems.

2-2.5 Embedded computer programs and computer program documents managed according to DOD 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs, AFI 33- xxx-series (Communications and Information) instructions, and the USAF Computer Program Identification Numbering (CPIN) System covered in TOs 00-5-16 and -17 (see paragraph 3-2 for computer-related manuals managed in the TO System.)

2-2.6 Systems or equipment to be maintained by the original manufacturer or a contractor over its life cycle. Policy on data to support these systems and commodities is in AFI 63-111, Contractor Support for Systems and Equipment (draft).

2-2.7 Communications-Computer Systems Security Publications and nonstandard cryptologic systems and equipment operated and maintained by Air Intelligence Agency (AIA), and managed/supported by San Antonio Air Logistics Center Cryptologic Management Directorate (SA-ALC/LT).

2-2.8 Numerical Control (NC) program tapes.

2-2.9 Publications for command-supported and/or fabricated equipment, locally acquired equipment, or nonstocklisted equipment.

2-2.10 Joint Munitions Effectiveness Manuals described in Technical Handbooks 61JTCG/ME-1-2-index and 61JTCG/ME-1-3 (OPR: OC-ALC/TILU).

2-2.11 Manuals and data for Foreign Military Sales (FMS) programs when the military system or commodities being provided are not identical to US military systems and/or commodities (see TO 00-5-19).

2-2.12 Written data or authorizations to deviate from published TO procedures that fit one or more of the following categories: (a) are unique to a specific serial numbered equipment item; (b) are expected to expire in 120 days or less; (c) are for one-time use; or (d) are not applicable to all users or units of the system or commodity. These categories are addressed in TOs 00-25-107 and 00-25-108.

2-3 AIR FORCE POLICY.

Air Force personnel are responsible for controlling and using TOs as organizational property in conjunction with official duties. Compliance with Air Force TOs is mandatory. All Air Force military systems and commodities, except those excluded by paragraph 2-2, are operated and maintained according to procedures

specified in TOs. The only other exceptions are waivers to compliance specified in or issued according to this TO and TO 00-5-3.

2-3.1 O&M TOs. O&M TOs (paragraph 3.2) that describe procedures for operation, troubleshooting, repairing, removing, installing, calibrating or servicing action must be available and used at the job site; however, Methods and Procedures TOs (MPTOs -- paragraph 3- 3) need not be at the job site except as defined in paragraph 2-3.1.4. Prior to starting any task, all applicable TOs must be reviewed for familiarization with latest procedures. MAJCOM HQ may provide further definition of a job site for specific situations, or may delegate this authority to wing Operations and Logistics Group commanders or equivalent.

2-3.1.1 TOs must be used as extensively as possible for training purposes; however, information must not be added solely to facilitate training.

2-3.1.2 TOs may contain classified information up to and including Top Secret-Restricted Data as outlined in DOD 5200.1-R and AFI 31-401, Information Security Program Management and AFI 31-601, Industrial Security Program Management.

2-3.1.3 All TO users must review TOs for accuracy, currency, and security classification.

2-3.1.4 When there is contractor support at the job site, all MPTOs, directive upon the contractor and listed in the Table of Applicable Documents in the contractor Statement of Work, must be available at the job site.

2-3.2 Abbreviated TOs. Abbreviated TOs (checklists, work packages, or inspection workcards) must be referred to during the operation and maintenance of systems or equipment. Items on work packages and workcards must be referred to as the step is accomplished, and items on checklists or sequential step-by-step procedures must be performed in the prescribed sequence.

2-3.2.1 AFI 11-215 establishes exceptions to this rule for FMP publications, as in the use of flight manual checklists during aircraft emergency operations.

2-3.2.2 In munitions loading checklists, several non dependent tasks, such as aircraft and munitions preparation, may be performed simultaneously. Such tasks must not invalidate or interfere with preceding or subsequent tasks. The munitions loading crew must ensure strict adherence to all safety requirements. Detailed guidance in the use of munitions loading checklists is provided in the introduction of the applicable TO.

2-3.2.3 Other simultaneous tasks as defined in TO 00-25-172, Ground Servicing of Aircraft and Static Grounding/Bonding, are permitted.

2-3.3 TO Program Management. Individual military system and commodity TO programs will be managed by a TO manager.

2-3.3.1 The TO manager will be appointed not later than the Program Definition and Risk Reduction phase of an acquisition program.

2-3.3.2 All personnel involved in TO management should receive formal training after being assigned those duties. Appendix B of this TO is a formal training plan which can be tailored to the training needs of each TO manager.

2-3.4 Nuclear Weapon TO Policy. TO procedures to be used with nuclear weapons must be nuclear safety certified according to AFI 91-103, Air Force Nuclear Safety Certification Program. All technical orders formerly managed by the Nuclear Weapons Directorate at Kelly AFB TX have been transitioned to various locations as indicated in the 0-1-11N-C index. Requirements for any of the TOs listed in that index will be forwarded to AAC/WNLD, 1651 First Street SE, Kirtland AFB NM 87117-5617, who will manage and maintain the nuclear TODO accounts, publish the 0-1-11N-C index, and distribute the Joint Nuclear Weapons Publication System (JNWPS) data. Questions related to TO content or improvement reports should be directed to the appropriate management agency indicated in the distribution statement on the title page, or in the 0-1-11N-C index.

2-3.4.1 During the maintenance of nuclear weapons and nuclear weapon systems, personnel must follow Category 11N TO procedures, as well as nuclear weapon-related procedures in other TO Categories, exactly as written.

2-3.4.2 When a task is performed on a nuclear or conventional weapon delivery system, and it is not practical for the personnel to have physical access to TOs, a verbal demand-response technique must be used.

The step to be performed, along with all notes, cautions and warnings, will be read to the technicians performing the work. The performing technicians will acknowledge understanding, perform the step, and then verify completion.

2-3.4.3 The use of Category 60N TOs during accident/incident situations shall be as outlined in the specific-weapon Category 60N TO.

2-3.5 Other TO System Policy and Procedures Documents.

2-3.5.1 TOs are controlled, distributed, requisitioned, filed and inspected according to TO 00-5-2.

2-3.5.2 TOs are acquired according to policies and guidance on procedures specified in TO 00-5-3.

2-3.5.3 Time Compliance TOs (TCTOs), used to modify or inspect centrally-procured and managed Air Force military systems and commodities, are acquired, developed and used according to TO 00-5-15.

2-3.5.4 TOs are assigned unique TO numbers to facilitate use, indexing and control according to TO 00-5-18.

2-3.5.5 TO 00-5-19 outlines the policies and procedures for the Military Assistance Program (MAP), Foreign Military Sales (FMS), consortium and coproduction agreements, and direct commercial sales.

2-3.5.5.1 Procedures for the control and release of TOs to non-US government agencies are specified in both TOs 00-5-2 and 00-5-19.

2-3.5.5.2 US government agencies are provided TOs according to AFJI 21-301.

2-3.6 Changes, Revisions, and Supplements. TOs may be revised, changed or supplemented according to this TO and TO 00-5-3. FMP publications will only be supplemented according to AFI 11-215. Using activities will not supplement TOs, except as specifically authorized hereunder.

2-3.6.1 Locally prepared workcards, checklists, job guides and page supplements are authorized when additional requirements related to local conditions (i.e., weather, physical restrictions, local environmental laws, etc.) are deemed necessary. Since locally prepared data are not TOs, they are exempt from Air Force indexing and repository storage. See paragraph 4-8.

2-3.6.2 For local publications, all parent TO procedures will be followed and no unsafe procedures will be introduced. No requirements for additional tools or test equipment will be introduced. Workcards, checklists, job guides and page supplements for nuclear munitions must be reviewed by Unit Safety and Product Improvement (PI) personnel, and approved by the Organization Commander. Fast reaction checklists for ICBM operations requirements will be approved by HQ AFSPC/DOMP and will not be forwarded to the SM.

2-3.7 MPTOs. All revisions and changes to the Category 00 MPTOs listed below must be approved by the HQ USAF OPR prior to publication.

2-3.7.1 HQ USAF/ILMM:

00-5-1	}	After AF CTOM Committee consideration		
00-5-2				
00-5-3				
00-5-15				
00-5-18		00-20-5	00-25-107	00-25-195
00-20-1		00-20-9	00-25-108	00-25-240
00-20-2		00-20-14	00-25-172	00-35D-54
00-20-3		00-25-4		

2-3.7.2 HQ USAF/ILT:

00-20B-5	00-20D-1	00-25-246	00-25-249
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2-3.7.3 HQ USAF/ILMM approves major revisions to all 00-series TOs not listed above.

2-3.7.4 MAJCOMs and individual bases are authorized to supplement these MPTOs, provided that the supplement does not alter or conflict with the intent of the basic MPTO or contain redundant material. See chapter 4 for specific supplement development and use procedures. For those MPTOs that contain

technically oriented data, the MAJCOM or base supplement must not alter any of the content. An information copy of all supplements must be sent to the HQ USAF and MAJCOM OPRs for that MPTO. Copies of all 00-5-series TO supplements must also be provided to the activities specified in paragraph 4-6.6.2.

2-3.8 Hazardous Materials (HAZMAT) and Ozone Depleting Substances (ODS). Ensure newly-developed TO procedures prevent pollution by reducing the use of hazardous materials and the release of pollutants into the environment. TO development should comply with AFD 32-70, Air Force 32-70 series instructions, and Federal Acquisition Regulations.

2-3.9 Substitutions. Items of test equipment and special tools listed in maintenance technical manuals for the performance of military system or commodity checkout and calibration can be substituted, provided the like item is capable of performing the same function and meets or exceeds the accuracy specification of the listed item. Items used to perform checkout and calibration of nuclear weapons will not be substituted until they have been certified for use by Detachment (Det) 1, Air Force Safety Center (AFSC)/SEW, Kirtland AFB NM 87117-5000.

2-3.10 Preliminary Data. The types of PTOs and data listed below will NOT be used by operational units for hands-on training, operations or maintenance unless authorized in writing and approved by the system or equipment SM and the Lead Command functional manager. The authorization letter must accompany the TO and data at all times. Use is limited to 180 days, with any extension requiring the same level of approval.

2-3.10.1 Preliminary TOs (PTOs). PTOs are copies of TOs prepared in limited quantities during TO acquisition to support in-process reviews (IPRs), validation or certification, and verification of data against the military system or commodity being acquired.

2-3.10.1.1 PTOs which have not been 100 percent verified must contain a Verification Status Page (VSP). PTO title pages will be annotated "APPROVED FOR OPERATION AND MAINTENANCE," and if applicable, "SEE VSP FOR RESTRICTIONS". Even with authorization, unverified data may only be used under the supervision of highly qualified technicians.

2-3.10.1.2 Unverified or partly verified PTOs may be issued to operational units for the express purpose of verifying them using production-configured assets according to TO 00-5-3. In these cases, the verification effort is normally performed by a Verification Team jointly established by the SM and the Using Command. If unverified data must be used for operational mission support, the "Using Command Verification Procedures" (paragraph 1-4.8) shall be employed during the first use.

2-3.10.2 Other Data. Occasionally, it may be necessary for the TO Manager to authorize temporary use of other types of data, such as preliminary (unpublished) TO changes, engineering data or contractor source data. (For example, contractor installation source data used to support maintenance on a prototype TCTO-modified aircraft until the TCTO and related TO changes can be published.) Approval, authorization and time limitations will be the same as for use of PTOs.

2-3.10.3 Preliminary EOD Data. This data may consist of PTOs, COTS manuals, or Advance Issue Publications (AIP). The data are specifically for use by authorized Air Force EOD technicians only. EOD units are not authorized to use the EOD data unless approved in writing. A MAJCOM EOD functional manager may approve EOD data supporting only that MAJCOM. The Commander, Det 63 AAC/CC, Indian Head MD, must approve data supporting multiple MAJCOMs. All preliminary EOD data will be identified by an EOD TO number assigned by Det 63 or the Naval EOD Technology Division (NAVEODTECHDIV), Indian Head, MD.

2-3.11 Other Authorized Data.

2-3.11.1 COTS Manuals (Paragraph 3-9). COTS manuals support equipment designed and manufactured for commercial use, and are furnished (or sold) by equipment manufacturers to their customers. COTS manuals delivered with the equipment they support are authorized for use pending Air Force review and assignment of TO numbers (no authorization letter required). Users must establish Initial Distribution (ID) for the TO-numbered replacement COTS manual according to TO 00-5-2.

2-3.11.2 Contractor Data. Air Force personnel may use contractor data (paragraph 2-4) when CLS/CS contracts provide for Air Force assistance to the contractor or when operating or maintaining equipment at sites or locations not covered by the contract (e.g., overseas and/or remote locations). No other authorization is required.

2-3.11.3 Joint-Use Government Agency Publications. Other DOD and US Government agency directives and TMs may be used by Air Force technicians when required for mission support (see AFJI 21-301, Interservicing of Technical Manuals and Related Technology). However, existing Air Force policy takes precedence other agency policies will not be used to establish levels of maintenance, record-keeping requirements or additional authorizations for tools and equipment.

2-3.11.4 Engineering Drawings. When referenced in the TO or authorized according to TO 00-25-107 or -108 procedures, Air Force technicians may requisition and use engineering drawings for reference. Drawings may be obtained electronically from the responsible repository after establishing an access account, or they may be requisitioned by letter or telephone from the SM having engineering responsibility for the affected system or commodity.

2-3.12 TO Repository. A record copy of each TO shall be retired upon issue to the Air Force repository, according to AFMAN 37-139, Records Disposition Schedule.

2-3.13 TO Compliance. The below policies apply to the use of TOs:

2-3.13.1 The SM is authorized to issue documentation that provides data beyond the scope of authorized TOs, or provides authorization to deviate from published TO parameters. This documentation is provided to avoid and resolve work stoppages or when there is a critical need for an item. Documentation for field use is issued according to procedures in TOs 00-25-107 or 00-25-108, and for depot use according to AFMCMAN 21-1. Data issued to a contractor-operated depot facility must be issued as an interim operational or safety supplement. EXCEPTION: "Early implementation" AFMC Forms 252 may be used to provide updated procedures for contractor use with TO 33K-1-70 and 33K-5 series TOs.

2-3.13.2 Air Force units will not make changes or corrections to TOs unless directed by official TO updates (either interim or formal). Exceptions are listed in chapter 4.

2-3.13.3 In the event of a conflict between a specific military system or commodity TO and a general TO, the specific TO will take precedence. When specific TOs do not contain procedures or processes such as cleaning, plating, etc., general TOs containing such information shall be used.

2-3.13.4 When Air Force equipment is operated as a part of the defense communications system, DCA directives will take precedence over TOs for those areas affecting system interface.

2-3.13.5 The basic TO, as the source document for checklist and workcard information, may be used in place of workcards and checklists in the performance of maintenance. In the case of a conflict between the basic TO and the abbreviated TO, the basic TO shall take precedence.

2-3.13.6 When both an inspection manual (-6) and workcards (-6WC) are acquired, the workcards shall take precedence.

2-3.13.7 There are two sets of generic servicing inspection workcards for powered aerospace ground equipment (AGE) which contain all known and relevant inspection requirements. One set of workcards applies to bomblifts and the other set applies to other powered AGE. WR-ALC/LKCB manages these workcards. Should any other TO or maintenance directive be in conflict with the requirements stated in these workcards, the workcards will take precedence.

2-3.13.8 Conflicting instructions which compromise personnel safety will be resolved by local commanders and reported using AFTO Form 22 procedures (chapter 5), for formal resolution by responsible authority.

2-3.13.9 Calibration procedures for non-stocklisted measuring equipment are authorized and listed in TO 33K-1-100 and not in the TO Catalog.

2-3.13.10 Preproduction or non-configured items will be operated and maintained according to the latest applicable version technical data developed; this technical data might not be indexed in the TO system.

2-3.13.11 The Reliability and Maintainability Information System (REMIS) Equipment Inventory, Multiple Status, Utilization Reporting System (EIMSURS) application subsystem provides "push-down" tables containing work unit code (WUC) manual data for most systems and commodities. These tables, when available, are to be used in preference to and take precedence over printed WUC (-06 series) manuals. Refer to TO 00-20-2 for further information.

2-3.13.12 Checklists are not required for every task, and it is recognized that not every task or common maintenance practice must be or will be covered by TOs prescribing every step.

2-4 CONTRACTOR DATA.

2-4.1 Data for Temporary or ICS Contracts. For programs using temporary or ICS contracts (support required until organic capability is attained), data used by the contractor to fulfill the terms of the contract is excluded from numbering and management in the TO System. However, if this data will transition to the Air Force, it is subject to review by the Air Force. COTS manuals transferring to the Air Force will comply with TO 00-5-3.

2-4.2 Data for CLS Contracts. When operation and/or maintenance are planned to be CLS, whether the military system or commodity is commercially available or is developed specifically for the Air Force, the SM acquires, numbers, and manages this data outside the TO system (no TO numbers are assigned). However:

2-4.2.1 The data is subject to Air Force technical content and reproducibility and rights reviews to ensure it is adequate for competition of follow-on contractor support ("Adequate" meaning usable by another contractor with comparable skills and experience to fulfill the terms of the contract).

2-4.2.2 Data developed or modified specifically for the CLS contract shall be validated or certified by the contractor, but verification is not required.

2-4.2.3 Pre-existing, unmodified commercial data shall be certified for adequacy and accuracy by the contractor acquiring the data for the CLS contract.

2-4.3 When military systems or commodities require partly organic support and partly CLS, the policy in TO 00-5-3 will be used to accept any COTS manuals and manuals developed from contractor data and to determine if they are included in or excluded from the TO System.

2-4.4 When existing military systems or commodities are transitioned from organic support to CLS, TOs which will continue to be used primarily by Air Force personnel will remain in the TO system. TOs which are peculiar to the system or commodity to be used totally (or with Air Force assistance) by the contractor, will normally be rescinded from the TO system and numbered and managed as directed by the CLS contract. However, CLS contracts will require the contractor to use and maintain any MILSPEC manuals in their MILSPEC format.

2-4.5 When CLS programs are transitioned to organic support, the policy in TO 00-5-3 will be used to evaluate, approve, number, and manage CLS manuals.

2-4.6 Factory Test Equipment (FTE) and Special Test Equipment (STE) Data. This equipment and its support data are designed by a contractor for internal use and are not commercially available. However, if the government decides to acquire the FTE and/or STE for organic use, the policy in TO 00-5-3 will be used to accept the support data and to determine if it is included in or excluded from the TO system.

2-4.7 Service Bulletins, Operations Manual Bulletins, FAA Airworthiness Directives, Temporary Revisions, and Like Data (Paragraph 3-9.2). These include any manufacturer or vendor updates to technical data covering commercial or militarized commercial equipment or airframes acquired for the Air Force, and must be procured for the life of the program.

2-4.7.1 The TCM, depot engineering or technical support activities and FMMs will determine if these publications apply to TO-numbered flight and/or maintenance manuals, and if they will be referenced in the TO by their commercial number or have the information extracted for inclusion in TO updates. Because Air Force and commercial roles and responsibilities for flight crews and ground crews are different, changes affecting only commercial maintenance personnel may also apply to military flight crews, and vice versa.

2-4.7.2 Publications directing modifications (other than temporary modifications authorized in DOD 5000.2-R) and initial or one-time inspections to be performed by Air Force organic resources will be numbered and managed as TCTOs. TCTOs and data codes will also be issued to update the configuration of CLS-managed systems and commodities when configuration control is the responsibility of the Air Force. For publications directing work to be performed by contractors, the responsible activity will determine whether or not a TCTO number will be assigned based on program requirements. This may result in TCTO numbers being assigned and managed within the TO system for programs managing O&M manuals outside the system.

2-5 RECOMMENDING IMPROVEMENTS:

2-5.1 Recommendations for improvements in the existing TO system (except as noted in paragraphs 2-5.2 through 2-5.5) must be sent by letter or message through the respective major commands, MSG/MMF, and

HQ AFMC/ENBP for review, comment, and recommendation to HQ USAF/ILMM. Proposals for new types of TOs (not covered by commercial or MILSPECs) must be submitted to MSG/MMF for review and disposition.

2-5.2 Recommendations for individual TO improvements, new maintenance instructions or procedures, correction of errors, or omissions of a technical nature are reported using the AFTO Form 22 according to chapter 5 of this TO.

2-5.2.1 Changes will be incorporated in TOs using methods specified in chapter 4, unless they meet the exceptions of paragraph 2-2.12. In those cases and for work stoppages, pending AFMC action on AFTO Forms 22 or requests for new TOs, assistance will be requested according to TOs 00-25-107 or 00-25-108 (paragraph 2-3.13.1).

2-5.3 Recommendations for improvement of FMP 0publications are submitted according to AFI 11-215. Recommendations for improvements during acquisition are submitted according to TO 00-5-3.

2-5.4 The interface between the TO system and the Innovative Development through Employee Awareness (IDEA) Program is explained in chapter 5.

2-5.5 Air Force agencies developing new techniques or concepts relating to TOs must submit a proposal and justification through HQ AFMC/ ENBP to HQ USAF/ILMM for approval before introducing the techniques or concepts. When the techniques or concepts require research and development (R&D), major commands must submit a Mission Need Statement (MNS) to HQ USAF for approval, according to AFI 10-601, Mission Needs and Operational Requirements Guidance and Procedures.

2-6 TO DISSEMINATION CONTROL.

2-6.1 Distribution and release of TOs are controlled to prevent unauthorized disclosure. Requisitioning of TOs for other than official business is not authorized. The below notices and statements will be placed on all preliminary and formal technical data except for commercial manuals. The notices or statements shall be placed on TO title or T-2 pages, and on both digital media labels and digital file title or opening screens (see MIL-HDBK-9660, DoD-Produced CD-ROM Products).

2-6.1.1 A disclosure notice according to MIL-STD-38784, on all classified and unclassified TOs which have been approved for release to a foreign government, except for those assigned Distribution Statement A. This notice will be placed on all classified and unclassified nuclear TOs.

2-6.1.2 A distribution statement assigned according to DODD 5230.24.

2-6.1.3 An export control warning, if applicable, according to DODD 5230.24.

2-6.1.4 A Disposition Notice or Handling and Destruction notice in accordance with MIL-STD-38784.

2-6.1.5 Refer to TO 00-5-2 for specific disposition/ destruction procedures for unclassified paper TOs and digital media.

2-6.2 Security Classification. TOs are published as Unclassified, Confidential, or Secret. Those that contain Restricted Data (RD), Formerly Restricted Data (FRD), or Critical Nuclear Weapons Design Information (CNWDI) are marked with the additional warning notices described in DOD 5200.1-R and AFI 31-401.

2-6.2.1 Classified TOs must be safeguarded in accordance with DOD 5200.1-R and AFI 31-401. The security classification will only be changed or canceled in accordance with DOD 5200.1-R and AFI 31-401. If any Air Force activity has reason to believe that security considerations support the reclassification of a specific TO, the activity will report the discrepancy in accordance with procedures outlined in DOD 5200.1-R and AFI 31-401.

2-6.2.2 The current security classification of each classified TO is indicated in the TO Catalog. Use of classified titles shall be avoided if possible, but when classified titles are necessary they will be listed only in a classified supplemental TO Catalog. Classified TOs are marked and destroyed according to DOD 5200.1-R and AFI 31-401.

2-6.2.3 Classified TOs are not releasable to foreign nations or their nationals except under the conditions prescribed in AFI 16-201, Foreign Disclosure of Classified and Unclassified Military Information to Foreign Governments and International Organizations.

2-6.3 For Official Use Only (FOUO). FOUO was used prior to the development of distribution statements required by DODD 5230.24/AFI 61-204 to mark unclassified data that must be withheld from public release under the AF Supplement to DOD 5400.7-R, DoD Freedom of Information Act (FOIA) Program. The TO title page will reflect the distribution statement; FOUO is no longer authorized.

2-7 TO WAIVERS.

2-7.1 TO System Policy and Procedures. Requests for waivers to TO system policies and procedures must be submitted through the parent MAJCOM to MSG/MMF for approval or disapproval. Policy waivers must be coordinated with HQ AFMC/ENBP and may require final approval or disapproval from HQ USAF/ILMM.

2-7.2 Emergency Waivers. On-scene commanders are granted broad discretionary powers to waive compliance with TO procedures in emergency situations. This waiver authority must be used with caution to avoid placing personnel or equipment in jeopardy. The situation must be documented and sent to HQ USAF/ILMM and HQ AFMC/ENBP after the emergency is resolved.

2-7.3 Systems Under Evaluation:

2-7.3.1 AFMC SMs may authorize temporary waivers (normally not to exceed six months) to compliance with TOs for aircraft, missiles and other equipment in acquisition to assess the need for engineering, maintenance, or operational changes. The SM may also grant temporary waivers (12 months maximum) for specific TO procedures affecting ground C-E systems.

2-7.3.2 When using aircraft or missiles for flight test purposes, commanders of AFMC organizations may temporarily waive compliance with immediate and urgent action TCTOs only when flights are required to determine or assess a solution for a condition pertaining to the affected TCTO. Routine action TCTOs will be accomplished within the time limits specified.

2-7.3.3 When TCTOs are applicable to components of a system or subsystem which are deactivated, modified or removed from the aircraft because of R&D test missions, noncompliance will be recorded on the AFTO Form 95, Significant Historical Data, or the mechanized TCTO status report, as applicable. The entry will indicate the reason and estimated date of compliance. These entries will be validated by signature of the wing Operations and/or Logistics Group commanders or equivalent.

2-7.3.4 Contractors or other government agencies (National Aeronautics and Space Administration, Federal Aviation Administration, Army, etc.) using Air Force aircraft for test purposes (AFPD 99-1 and associated Instructions) may request temporary waivers from compliance with immediate, urgent and routine action safety TCTOs only when flights are required to determine or assess a solution for a condition pertaining to the TCTO requirement.

2-7.3.4.1 Temporary waivers from compliance with routine action mission essential TCTOs may be requested only if compliance would seriously affect mission accomplishment.

2-7.3.4.2 All waiver requests require approval of the AFMC activity having responsibility for maintenance management of the aircraft and equipment, and the responsible procurement activity.

2-7.3.4.3 TCTO waivers will be recorded according to paragraph 2-7.3.3. Unless waived, applicable TCTOs will be accomplished within the time limits specified.

2-7.3.4.4 When TCTOs are applicable to components of a system or subsystem which are deactivated, modified or removed from the aircraft because of R&D missions, non compliance will be recorded according to paragraph 2-7.3.3. The entries will be validated by the signature of the local defense plant representative or senior contractor maintenance official. Upon reinstallation of these components into the aircraft, or prior to shipment to an Air Force facility, all outstanding TCTOs will be accomplished.

2-7.3.4.5 All agreements and applicable contracts will reflect this policy.

2-7.4 Combat Zones and Emergency War Order (EWO)-Tasked Systems and Equipment.

2-7.4.1 In areas engaged in actual combat operations, for systems or components which are on or supporting EWO alert taskings, and for systems or components engaged in contingency operations, the MAJCOM or responsible unit commander may temporarily waive specific TO compliance until operational capability permits or safety of personnel is assured. Those TOs issued to correct deficiencies are mandatory, but may be accomplished on a phased basis to minimize the impact on EWO posture. Those TCTOs or master change logs that have been issued for immediate action will be completed within the time limits specified or

the affected equipment will be removed from service. When high priority, unscheduled special missions preclude accomplishment within the time limit specified, waivers to removal from service requirements may be authorized by the MAJCOM.

2-7.5 Aircraft and Aircraft Systems. Temporary waivers for compliance on these systems are authorized as follows.

2-7.5.1 MAJCOM commanders may temporarily waive compliance with any type of TO when assigned aircraft are required for rescue missions, including combat rescue missions, where loss of life or capture of friendly forces may occur and the aircraft is the only vehicle immediately available to make the rescue. This authorization may be redelegated by these commanders.

2-7.5.2 The responsible unit commander may temporarily waive compliance with any type of TO for evacuation flight and return, when aircraft are threatened by flood, hurricane, typhoon, etc., or when aircraft are required for rescue missions where loss of life may occur.

2-7.5.3 When transferring aircraft, MAJCOMs are authorized to use the waiver provisions of TO 00-20-1, provided both the losing and gaining commands agree.

2-7.5.4 Special TJ-coded aircraft for "Ground Use Only" (AFI 21-103, Equipment Inventory, Status, and Utilization Reporting) require TO compliance only on those systems designated for training purposes. Aircraft auxiliary systems may be modified to support the primary system.

2-7.6 Ground C-E Systems. The chief of C-E maintenance, with the concurrence of the applicable AETC training supervisor, may waive compliance with those TO requirements which are jointly determined as not applicable or not economically justified because of the training environment. When such waivers are considered essential, the commander will ensure the chief of C-E maintenance of the maintaining organization establishes maintenance practices to ensure that AETC ground C-E training equipment is maintained to standards that fulfill AETC mission requirements. Waivers granted in the AETC environment will be reviewed annually and updated as required by changes in the source TO and/or training requirements.

2-7.7 EOD Nonnuclear Category 60 TOs. These TOs are joint service publications and are written only for the information and guidance of EOD personnel. These TOs do not address specific situations. The training and expertise of EOD personnel are used to determine procedures to render safe and/or dispose of explosive ordnance. Waivers to deviate from TO procedures are not required.

2-7.8 Methods and Procedures TOs (MPTOs). MAJCOMs may not waive compliance with policies in MPTOs unless specifically authorized within the individual TO. When a waiver is considered necessary, the MAJCOM will forward a request to the HQ USAF OPR for that TO. The request must contain full justification for the waiver and a description of the alternate procedure which will be used.

2-8 POST-PUBLICATION REVIEWS.

Post-pub reviews are made to evaluate and improve formal TOs after delivery to the using commands.

2-8.1 Command Reviews. The need for a TO command review is determined by the TO Manager and using command, based on the number of modifications made to affected equipment, the complexity and extent of modifications and resultant TO changes, and the number of AFTO Forms 22 or AF Forms 847 received since the latest update.

2-8.2 Currency Reviews.

2-8.2.1 Unclassified TOs which have not been updated for five years will be reviewed by the TCM for currency, and updated or rescinded as required.

2-8.2.2 Classified TOs will be reviewed for possible reclassification and currency at every update or review, but at least once annually.

CHAPTER 3

TO AND OTHER SUPPORT DATA TYPES AND DESCRIPTIONS; NUMBERING

3-1 GENERAL.

Various types of TOs and support data used in the Air Force are described in this chapter (figure 3-1). New types of TOs for which there are no approved MILSPECs will not be acquired or prepared without the prior approval of MSG/MMF (paragraph 2-5).

3-2 O&M TOS (FIGURE 3-2).

These TOs cover installation, operation, maintenance and handling of Air Force military systems and commodities. Examples are:

- Flight Manual Program (FMP) Publications. These TO Category 1 publications contain information on an aircraft, its equipment, operation and characteristics. They include flight manuals (-1 series), air refueling procedures (1-1C-1 series), etc. See AFI 11-215.
- On-Equipment Organizational Maintenance Manual Sets. These MIL-M-83495 sets, which include Job Guides (JG), General Vehicle (GV) TOs, Wiring Diagram (WD) manuals, etc., provide detailed procedures in step-by-step form for operational checkout, test, repair, adjustment, and removal and replacement of accessories. The JG manuals are normally prepared in reduced size.
- Nuclear Weapons Manuals. These manuals are managed and controlled according to paragraph 2-3.4, and are not entered in the Air Force TO System (JCALS).
- Nonnuclear Munitions Manuals. These manuals consist of munitions loading TOs, weapons delivery TOs, nonnuclear Explosive Ordnance Disposal (EOD) manuals, and manuals for munitions handling, transportation, maintenance and inspection. Nonnuclear munitions include chemical and biological warfare weapons.
- Aircraft Emergency Rescue Information (Fire Protection). This TO provides required system information and establishes emergency rescue procedures for use during various types of ground emergencies on military and commercial aircraft.
- Communications-Electronics Manuals. These manuals include Facility, Subsystem, and System Installation - Engineering and Installation manuals, General Engineering and Planning manuals, and Standard Installation Practices TOs (SIPTOs).
- Work Package TOs. These MIL-M-87929 depot and intermediate maintenance manual sets contain individual work packages (WPs) which provide detailed procedures, in step-by-step form, to accomplish specific maintenance tasks. The depot or intermediate maintenance set contains all applicable WPs. Because multiple WPs are contained in each dash (-) numbered TO set, individual WPs may NOT be requisitioned.
- Computer-Related Manuals. Operator manuals for imbedded computer programs that provide instructions on loading and system operation may be managed in the TO System. This does NOT include instruction manuals for locally-purchased personal computers (PCs).

3-3 GENERAL AND METHODS AND PROCEDURES TOS (MPTOS - FIGURE 3-3).

3-3.1 General TOs. If the number 1 is used in lieu of a specific equipment identifier, the TO is a general technical order (category general, system general, or equipment - series general TO). Category general TOs apply to more than one type of aircraft, missile, or engine or to more than one equipment system in the category. System general TOs apply to more than one type of aircraft, missile, or engine or to more than one equipment series within the equipment system. Equipment-series general TOs apply to more than one sub-series of equipment within the equipment series.

3-3.2 MPTOs (Category 00) are general in content and are not issued against specific military systems or commodities. There are two classes of MPTOs:

3-3.2.1 Those which specify policy, methods and procedures relating to the TO system, maintenance management, administration, inspection of Air Force equipment, control and use of repairable assets, configuration management, etc. Examples include the 00-5- series TOs.

3-3.2.2 Those which involve policies, methods and procedures relating to ground handling of aerospace vehicles, general maintenance practices, management of precision measurement equipment, and the safe use of Air Force equipment. They may specify common procedures for arrangement of maintenance production facilities or special inspection functions such as the joint oil analysis program. An example is TO 00-25-234, General Shop Practice Requirements for Repair, Maintenance, and Test of Electrical Equipment.

3-4 INDEX TOs.

Indexes show the status of all TOs, provide a means of selecting needed TOs, and group TOs pertaining to specific items of equipment. Examples are:

- TO Catalogs. The TO catalog is a database application containing a combined numerical listing of TOs applicable to all categories of equipment, classes of publications, and data about the publication. It is used to establish and requisition TO requirements (TO 00-5-2) and for maintenance of TO libraries. The catalog includes a separate database of new, updated and rescinded TOs, and a database cross-reference of TO numbers to equipment numbers. This last section replaces the former Interservicing of Technical Information Exchange Subsystem (ITIES) Cross-Reference File (ICRF).

NOTE

The outdated ICRF index TO, 0-4-6-2-CD-1, may be retained for reference, but will not be updated.

- TO Indexes. There are separate indexes covering special classes of TOs, such as those for nuclear weapons support (0-1-11N & 0-1-11N-C) and those used by FMS countries only (0-1-71).
- Lists of Applicable Publications (LOAPs). These TOs provide a listing of all TOs applicable to a specific military system and related commodities. These TOs facilitate selection of, or familiarization with, publications for the system covered.

3-5 ABBREVIATED TOs (FIGURES 3-4 AND 3-5).

These TOs are excerpts from one or more basic TOs which organize and simplify instructions. The following are types of abbreviated TOs.

3-5.1 Inspection Workcards (figure 3-6). Workcards are developed in sets by type of inspection, and (normally) work area or zone being inspected. They provide the required guidance, including applicable safety warnings, cautions and notes and specific accept/reject criteria for performing an inspection.

3-5.2 Inspection Sequence Charts. These are limited-use tools provided for scheduled inspections and depict a basic planned work schedule or sequence in which the inspection workcards can be used.

3-5.3 Checklists. Checklists provide abbreviated step-by-step procedures for operation and maintenance of systems and equipment in the sequence deemed most practical, or to ascertain operational readiness of equipment and minimum serviceable condition. A checklist may be published when one or more of the following criteria exists:

3-5.3.1 When sequential steps must be followed to preclude potential damage or degradation to equipment which would reduce operational readiness or cause catastrophic failure.

3-5.3.2 To preclude potential injury to personnel and/ or damage to equipment unless prescribed sequence time-phased procedures are followed.

3-5.3.3 When interaction or communication between two or more differing specialty skills is involved in accomplishing a function.

3-6 TCTOs (FIGURE 3-6).

TCTOs are the authorized method of directing and providing instructions for modifying military systems and commodities (other than temporary modifications authorized in DOD 5000.2-R), and performing or initially

establishing one-time inspections. TCTOs are grouped as immediate action, urgent action, and routine action according to the urgency of the instructions. The urgency determines how quickly TCTO compliance is to be completed. Detailed instructions on TCTOs are provided in TO 00-5-15.

3-7 SUPPLEMENTAL MANUALS.

Supplemental manuals contain instructions for use in conjunction with data contained in another (parent) manual. The title page will state: "This manual is incomplete without TO XXXXXX-XX." Supplemental manuals differ from supplements in that they are assigned a separate TO number. Supplemental manuals may be used to publish classified data while allowing the parent manual to remain unclassified, to publish data provided by a source other than the SM, and/or to publish data in a form other than the parent manual. EXAMPLES: 1) A table containing classified weapon data used with a Weapons Delivery TO to build mission profiles; 2) Aircraft deicing criteria provided by the FAA; and 3) Rapidly changing data published on the Internet to reduce the cost of frequent updates to a parent manual.

3-8 JOINT-USE PUBLICATIONS (FIGURE 3-7).

Technical manuals developed for other services or government departments are used by the Air Force (when available) if they meet operational and maintenance needs. The publications are integrated into the TO system, assigned TO numbers, indexed, distributed, stored, re-printed and rescinded in the same manner as any other TO.

3-9 COMMERCIAL-OFF-THE-SHELF (COTS) MANUALS.

COTS manuals support equipment designed and manufactured for commercial use, and are furnished (or sold) by equipment manufacturers to their customers. COTS manuals commonly provide operating instructions and technical information for installing, servicing and repairing the equipment item, and a parts list to assist in ordering replacement parts. Commercial flight manuals developed according to Air Transport Association (ATA) specification 100 may also be used.

3-9.1 COTS manuals must be reviewed and approved for use according to MIL-HDBK-1221. Commercial flight manual content must also be reviewed against the requirements of MIL-PRF-7700. COTS manuals and supplemental data accepted for Air Force use are normally assigned a TO number and are managed, referenced and used like any other TO.

3-9.2 Service Bulletins, Operations Manual Bulletins, FAA Airworthiness Directives, Temporary Revisions, and Like Data. These are manufacturer publications providing information and instructions on commercial systems and commodities, similar to those provided in the TO System by MILSPEC inspection manuals, TO supplements, and TCTOs. The SM acquires them using DID DI-MISC-81241 for aircraft systems and equipment or by including the requirement on the CDRL for TO delivery for non-aircraft systems and commodities. They will be accepted, numbered, and used like other COTS manuals or supplemental data.

3-10 PRELIMINARY TOS (PTOS - FIGURE 3-8).

PTOs are copies of TOs prepared in limited quantities during TO acquisition to support inprocess reviews (IPRs), validation or certification, and verification of data against the military system or commodity being acquired. PTOs are formalized according to TO 00-5-3. Formalization is indicated when a TO update removes the word "PRELIMINARY" from the title page.

3-11 OTHER SUPPORT DATA.

Other types of data, described below, are used to support operation and maintenance of Air Force equipment and for the development of TOs. This support data is not managed in the TO system.

3-11.1 Locally-Prepared Workcards, Checklists, Job Guides and Page Supplements. The purpose of locally prepared documents is to formalize and control procedures unique to a base or area, and which do not apply or are not suitable for all TO users. They are generally formatted and used like formal TOs, and are approved at the base level. See chapters 2 and 4.

3-11.2 Contractor Data. This data is developed by the contractor for use in supporting TO development, production, R&D programs, interim contractor support (ICS) requirements, CLS contracts, etc. It can contain all forms of technical data, including manuals, documents, pamphlets, instructions, engineering drawings, etc., needed to support contractor functional requirements. The policy, conditions and restrictions for use of contractor data are provided in chapter 2. Types of contractor data include data for temporary or ICS contracts, data for CLS contracts, and factory test equipment (FTE) and special test equipment (STE) data.

3-11.3 Source Data. Source data is used in the TO system for the development or update of TOs not under the control of the acquisition TO manager. There are several different types and formats of source data, including engineering documentation, Supportability Analysis Records and contractor data; the type and format depends on the specific needs of the TO program. Source data may be developed organically or acquired from contractors (TO 00-5-3).

3-12 DIGITAL MEDIA.

The volume of technical data necessary to maintain and support state-of-the-art weapon systems has increased so significantly that it is difficult and time consuming to use traditional paper TOs to perform even simple tasks. New-start acquisition programs are now required to purchase digital data rather than hard-copy (DOD 5000.2-R).

3-12.1 Continuous Acquisition and Life-Cycle Support (CALs) is the concept that focuses on accelerating the transition from our present paper-intensive, non-integrated product development, design, manufacturing and support processes to highly automated, integrated modes of operation. The Joint Computer-aided Acquisition and Logistics Support (JCALS) System will implement CALs for technical data. JCALS is an automated information system that provides the hardware and software infrastructure for managing technical manuals throughout DOD. The goal is to enable the development, update, storage, distribution and use of TOs and other technical data via world-wide CALs standards.

3-12.2 There are two digital TO environments; wholesale (authoring and editing) and retail (using).

3-12.2.1 At the wholesale level, tech data will be organically sustained using Standard Generalized Markup Language (SGML)-tagged files acquired according to AF DSSs (see definitions). For contractor maintained TOs all efforts should be made to acquire SGML-tagged files using the AF DSSs, but this may not be practical due to the cost.

3-12.2.2 SGML-tagged files are not only fully editable, but are also “intelligent” files: that is, the tags will allow using the same data in multiple applications (repurposing), using the same file in multiple output formats, making in-depth data searches, linking related data and illustrations, and adding interactivity to the TO. These capabilities improve both the management of the TO itself and its use in the field.

3-12.2.3 Other digital formats are currently being used by some weapon systems, but the goal is to ensure use of standardized formats portable between weapon systems and platforms.

3-12.2.4 At the retail level, the Lead Command (in coordination with the other using commands) will determine the digital functionality requirements needed to enhance the operators and maintainers ability to perform their mission. These requirements will determine the digitization format (i.e. XML, HTML, IPDF, etc) to be derived from the SGML source data.

3-13 TO NUMBERING.

TO numbers are assigned to TOs to identify categories or groupings (table 3-1), to provide sequences for filing and indexing, and to provide a means for users to identify and establish requirements for distribution of TOs.

3-13.1 Numbers are assigned on a system or commodity Mission/Design/Series (MDS) basis whenever possible. TOs containing instructions or procedures applicable to more than one major group are numbered in a general series for the particular category. If multiple TOs are included on a single distribution medium (e.g., CD-ROM or tape), a single unique number will be assigned to the medium. When a TO is sufficiently large and has natural divisions in tasks or equipment breakout which make several smaller manuals more usable and more manageable, the TO may be sectionalized with a separate TO dash (-) number assigned to each section. The same procedure may be used for multiple CD sets, such as the C-17 “G” file. For less complex items, specific types of instructions are published in a single TO.

3-13.2 A TO number is assigned to each PTO in the same manner as for formal TOs. If a PTO must be changed to make it applicable to a specific configuration of the commodity to which it applies and there are two or more commodity configurations to be covered, the original PTO will retain its number unchanged and modified PTO(s) will be identified by a different dash (-) number.

3-13.3 Changes and appendices are assigned the same number as the basic TO, with a sequence number denoting the specific change or appendix. Change sequence numbers will restart with change 1 after each TO revision. For numbering of local technical data, see paragraph 4-8.2.

Table 3-1. Technical Order Categories

TO Category	Title
0	Technical Order Catalogs, Indexes, and Cross Reference Table TOs
00	General TOs
1	Aircraft TOs
2	Airborne Engines and Associated Equipment TOs
3	Aircraft Propellers and Rotors TOs
4	Aircraft Landing Gear TOs
5	Airborne Instrument TOs
6	Aircraft and Missile Fuel Systems TOs
7	Airborne Engine Lubricating Systems TOs
8	Airborne Electrical Systems TOs
9	Aircraft and Missile Hydraulic, Pneumatics and Vacuum Systems TOs
10	Photographic Equipment TOs
11	Armament Equipment TOs
12	Airborne Electronic Equipment TOs
13	Aircraft Furnishings and In-Flight Feeding Equipment, Cargo Loading, Aerial Delivery and Recovery Equipment, Aircraft Fire Detection and Extinguishing Equipment TOs
14	Deceleration Devices and Personal and Survival Equipment TOs
15	Aircraft and Missile Temperature Control, Pressurizing, Air Conditioning, Heating, Ice Eliminating, and Oxygen Equipment TOs
16	Airborne Mechanical Equipment TOs
21	Guided Missile TOs
22	Aerospace Vehicles TOs
31	Ground Electronic Equipment TOs
32	Standard and Special Tools TOs
33	Test Equipment TOs
34	Shop Machinery and Shop Support Equipment TOs
35	Ground Handling, Support, Air and Missile Base Operating Equipment TOs
36	Vehicles, Construction and Material-Handling Equipment TOs
37	Fuel-, Oil- and Propellant-Handling Equipment TOs
38	Nonaeronautical Engines TOs
39	Watercraft Equipment TOs
40	Commercial Air Conditioning, Heating, Plumbing, Refrigerating, Ventilating, and Water Treating Equipment TOs
41	Subsistence and Food Service Equipment TOs
42	Coating, Cleaning, and Sealing Compounds and Fuels, Gases, Lubricants, Chemicals, and Materials TOs
43	Simulator and Training Devices TOs
44	Common Hardware Equipment TOs
45	Railroad Equipment TOs
46	Office, Duplicating, Printing and Binding Equipment TOs
47	Agriculture Equipment TOs
49	Optical Instruments, Timekeeping and Navigational Equipment TOs
50	Special Services Equipment TOs
51	Automatic Test Systems TOs
60	Explosive Ordnance Disposal TOs

3-13.4 Routine Supplements. Routine supplements are assigned one or two alpha characters to the last group of the TO number. These suffixes are restricted to the alpha characters C through Z when only one alpha character is required and assigned. When assignment of two alpha characters is necessary, the alpha characters to be used are restricted to CC through CZ progressing to DC through DZ and so forth to ZZ.

3-13.4.1 The alpha characters A and B, AA through AZ, and BA through BZ are reserved for special purposes and are not used or assigned as supplement suffixes.

3-13.4.2 The alpha characters I (eye) and O (oh) are not used in order to avoid confusion with the numbers one (1) and zero (0).

3-13.5 Operational and Safety Supplements. Operational supplements are identified by adding an alpha “S” to the last group of the TO number; safety supplements are identified by adding an alpha “SS” to the last group of the TO number. A single block of serial numbers will be used for assigning both safety and operational supplement numbers. For example: 1B-52G-1-11SS-1, 1B-52G-1-11S-2, 1B-52G-1-11SS-3, etc.; or 1B-52G-2-34JG-1S-1, 1B-52G-2-34JG-1SS-2, etc. For flight manuals, the number of a safety or operational supplement is used only one time. For maintenance and non-flight operations manuals, supplement numbers will restart at “1” after the basic manual is revised. When a supplement is replaced or superseded by another supplement, use a new supplement number.

3-13.6 TO Page Supplements (TOPS - paragraph 4-6.2). Existing TOPS are numbered with the basic TO number followed by the suffix “TP” and a dash number assigned in sequence, e.g., 00-5-1TP-1 for the first TOPS to this manual. The number will not be reused for one year after the original TOPS has been replaced.

3-13.7 Flight Manual Performance Data may be issued as a separate TO, numbered and assigned a suffix dash (-) number as for sectionalized TOs.

3-13.8 When renumbering a TO, both the new and former TO numbers will appear in the upper right corner of the title page with the former number preceded by the word “Formerly.” Both numbers will remain on the title page until the next revision, at which time only the new number will appear. Only the new TO number will appear on the individual updated pages.

3-14 PUBLICATION STOCK NUMBERS (PSN).

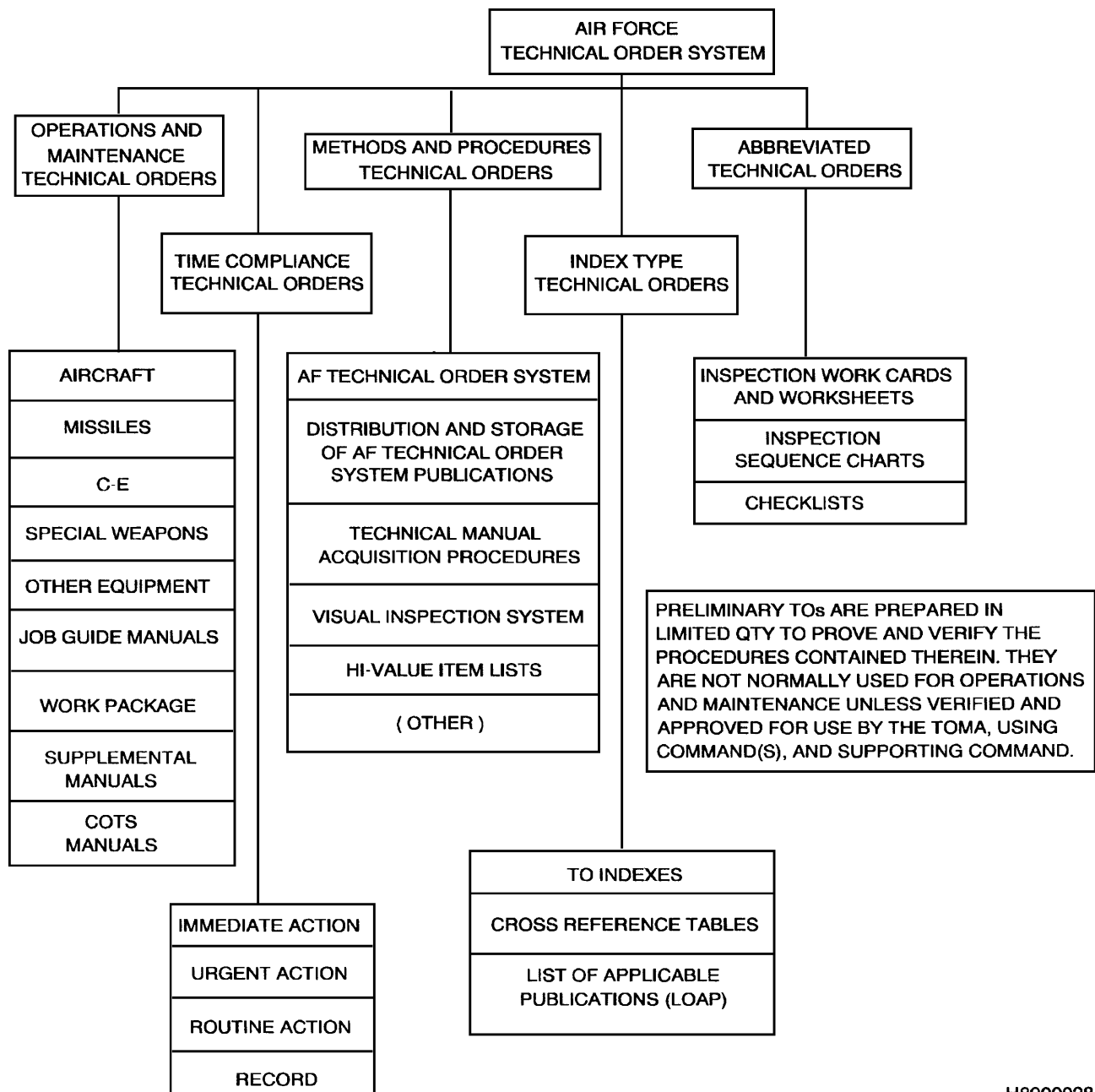
In addition to the standard TO number system described above, JCALS also assigns “Publication Stock Numbers (PSNs)” to each TO and TO increment as they are indexed.

3-14.1 A PSN is a 15-character number created by the JCALS system to manage each TO and TO increment. The number is based on information entered by the TO manager when the TO or increment is indexed. The PSN consists of six parts, broken out as follows:

- The first two digits indicate the TO category (00, 01, 21, etc.)
- The third character will always be a “T” for Air Force TOs.
- The fourth through ninth digits are a number assigned by JCALS to the basic TO and each revision. Each revision will have a unique number which will be assigned to every increment applicable to that revision (“family”).
- The tenth character indicates whether the increment is a basic/revision/change (0), or a supplement (S = Safety Supplement, P = Operational Supplement, T = TOPS, and C = Routine Supplement).
- The eleventh through thirteenth digits indicate the change or supplement number of the increment. All zeroes indicate there are no changes or supplements.
- The fourteenth and fifteenth characters are the media code for the increment (the 15th digit is not used when the 14th digit is a letter). Examples of these codes include, but are not limited to:

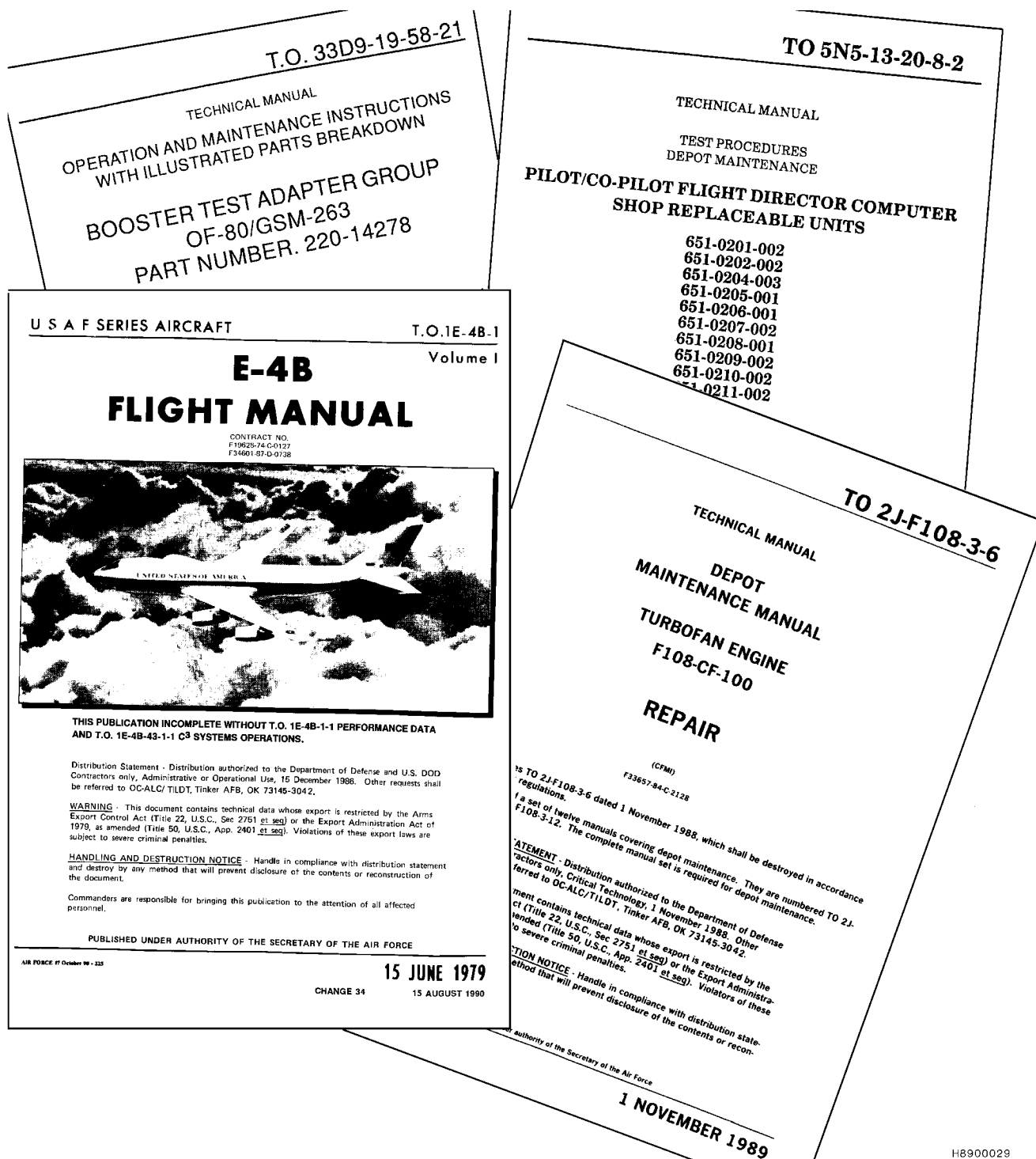
06 -- Paper
10 -- 3/5" Floppy Disk (1.44 Mb)
11 -- Digital On-Line
M -- Microfiche

P -- Printed Copy (intrim TOs distributed via message)
R -- CD-ROM
V -- Video Cassette



H8900028

Figure 3-1. Types of TO Publications



H8900029

Figure 3-2. Operations and Maintenance TOs (Sheet 1 of 2)

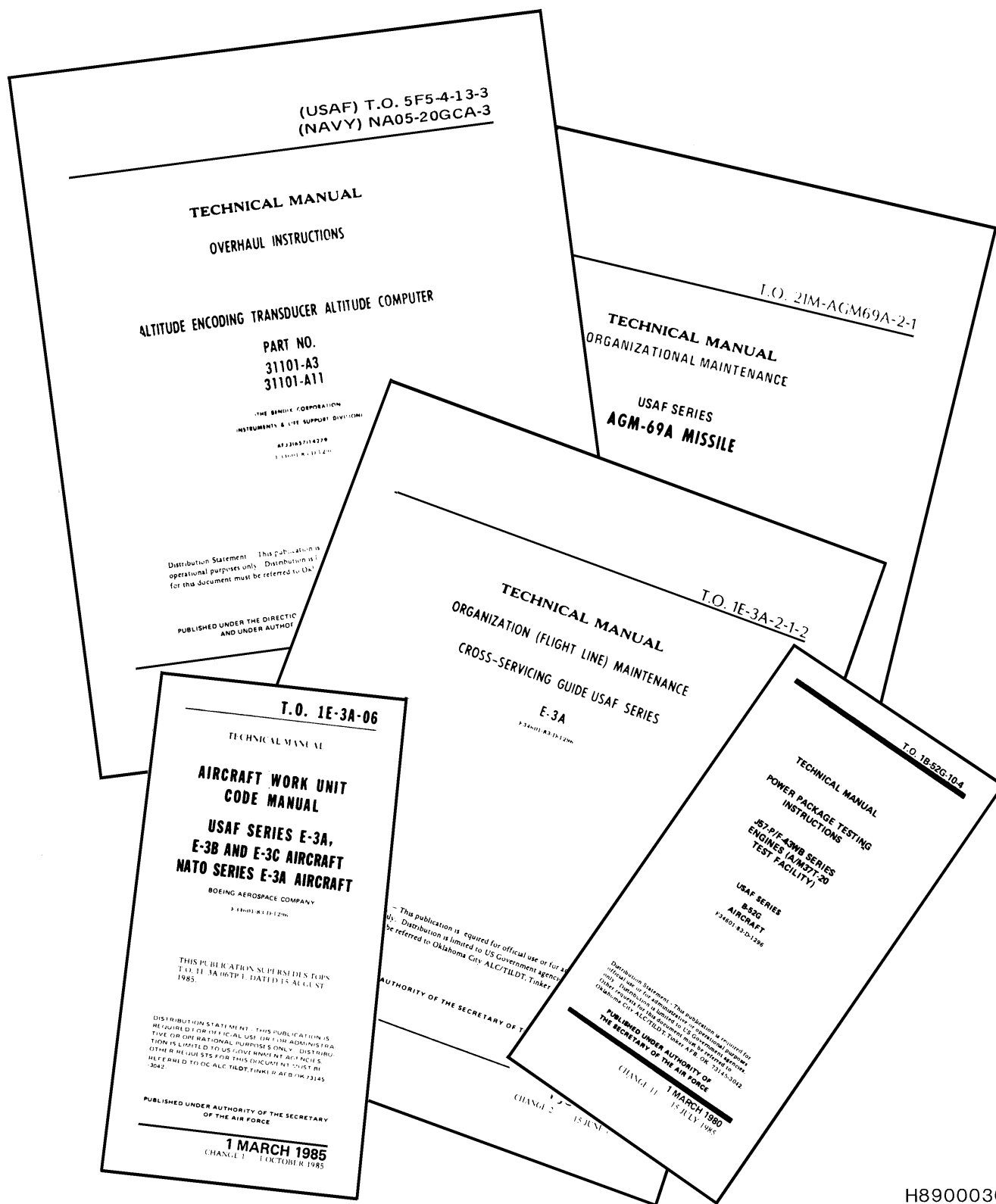
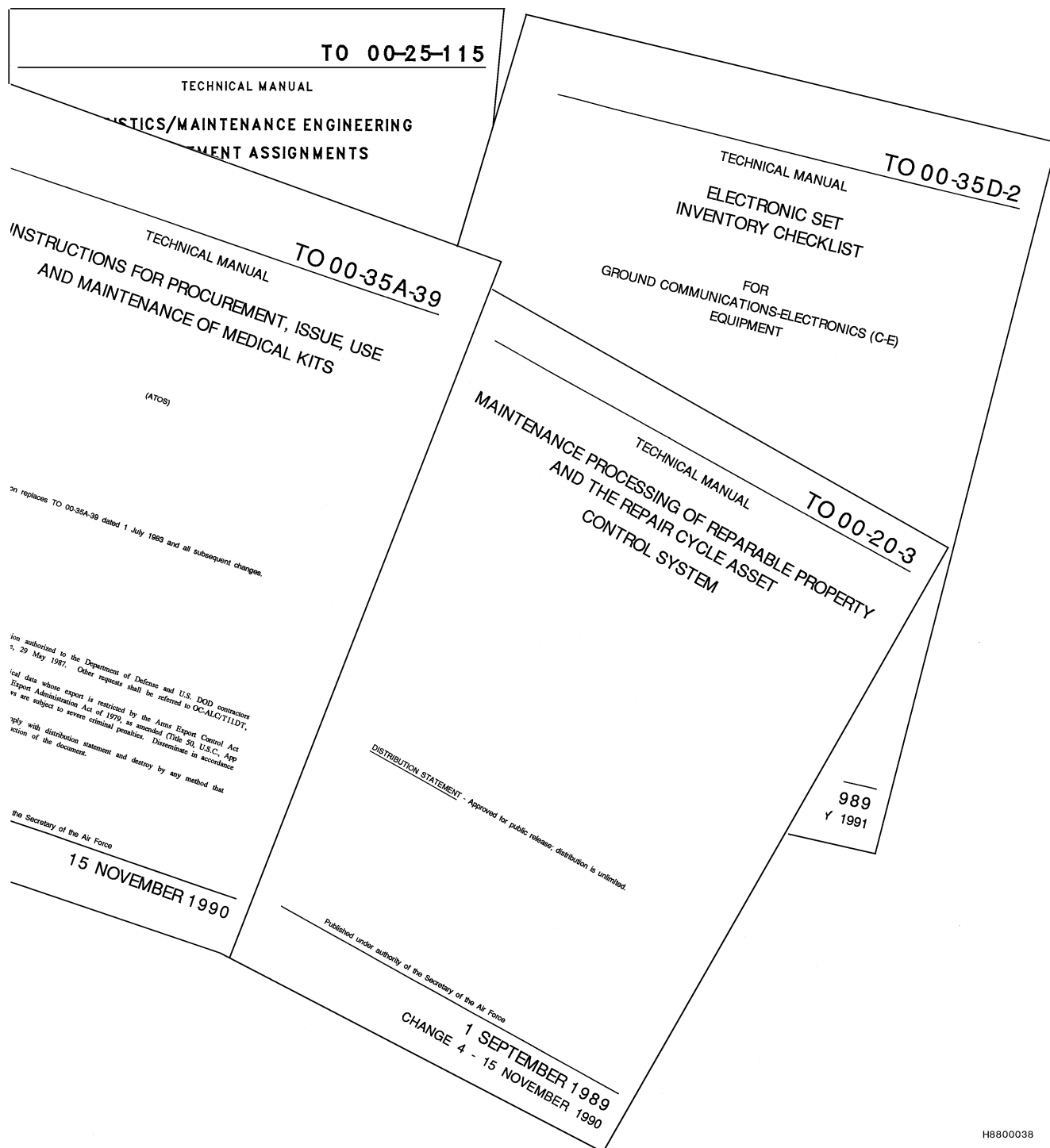


Figure 3-2. Operations and Maintenance TOs (Sheet 2 of 2)



H8800038

Figure 3-3. Methods and Procedures TOs

T.O. 1C-18A-2-7CL-1

CHECKLIST**ORGANIZATIONAL (FLIGHT LINE)
MAINTENANCE****AIRPLANE JACKING****USAF SERIES****C-18A****EC-18B****AIRCRAFT****F34601-83-D-1296**

DISTRIBUTION STATEMENT - Distribution authorized to the Department of Defense and U.S. DoD Contractors only, Administrative and Operational Use, (1 November 1986). Other requests shall be referred to OC-ALC/ TILDT, Tinker AFB, OK 73145-3042.

WARNING - This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec. 2751 *et seq.*) or the Export Administration Act of 1979, as amended (Title 50, U.S.C., App. 2401 *et seq.*). Violations of these export laws are subject to severe criminal penalties. Disseminate in accordance with provisions of DOD Directive 5230.25

HANDLING AND DESTRUCTION NOTICE - Handle in compliance with distribution statement and destroy by any method that will prevent disclosure of the contents or reconstruction of the document

PUBLISHED UNDER AUTHORITY OF THE SECRETARY OF THE AIR FORCE

1 AUGUST 1983
CHANGE 3 **1 NOVEMBER 1986**

T.O. 1C-135(E)-43-1-1CL-2

RADIO OPERATOR'S**ABBREVIATED
FLIGHT CREW CHECKLIST****USAF SERIES****EC-135A, C, G, H, J, L, P****AIRCRAFT**

CONTRACT NO. F34601-84-C-1422
CONTRACT NO. F34601-90-D-0311

TISDT

Commanders are responsible for bringing this checklist to the attention of all personnel cleared for operation of the aircraft.

DISTRIBUTION STATEMENT - Distribution authorized to the Department of Defense and U.S. DoD contractors only, Administrative and Operational Use, 15 July 1990. Other requests shall be referred to OC-ALC/ TILDT, Tinker AFB, OK 73145-3042.

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PUBLISHED UNDER AUTHORITY OF THE SECRETARY OF THE AIR FORCE

AIR FORCE 24 OCT 90-220

15 JULY 1990

H8900032

Figure 3-4. Abbreviated TOs - Checklists

T.O. 1B-52G-6WC-1

TECHNICAL ORDER PAGE SUPPLEMENT

ONE SET
USAF MODELS
B-52G AND B-52H
AIRCRAFT

50 HOUR
PREFLIGHT-POSTFLIGHT
INSPECTION WORK CARDS

DISTRIBUTION STATEMENT – Distribution authorized to the Department of Defense and U.S. DOD Components only, due to Direct Military Support, 1 June 1987. Other requests shall be referred to OC-ALC/TILDT, Tinker AFB OK 73145-3042.

WARNING – This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2751 et seq) or the Export Administration Act of 1979, as amended (Title 50, U.S.C., App 2401 et seq). Violations of these export laws are subject to severe criminal penalties.

HANDLING AND DESTRUCTION NOTICE – Handle in compliance with the distribution statement and destroy by any method that will prevent disclosure of the contents or reconstruction of the document.

PUBLISHED UNDER AUTHORITY OF THE SECRETARY OF THE AIR FORCE

AIR FORCE 28 JUL 89-1500

1 JANUARY 1989
CHANGE 1 – 1 MAY 1989

MAN MIN	WORK AREA	WORK UNIT		INSPECTION REQUIREMENTS	ELECTRICAL POWER	SERVICE	FIGURE	CARD NO.
		SYS	SUB-SYS					
				PREFLIGHT	OFF			1-010
				FORWARD FUSELAGE EXTERIOR				
	1	11	RA-	1.	FLIR AND STV WINDOW CLEANED AND POLISHED BY BOMB-NAV TECHNICIANS PER T.O. 1B-52G-2-41, IF CONTAMINATED.			
	1	49	FAB	* 2.	REPLENISH WATER IN WINDOW WASH TANK IAW T.O. 1B-52()-2-2JG-4.			
	1	49	EAA	* 3.	SERVICE WATER INJECTION TANK (B-52G). CHECK WILL BE ACCOMPLISHED TO ENSURE TANK IS FULL (IAW T.O. 1B-52()-2-2JG-4).			
	1	11	---	4.	PERFORM VISUAL INSPECTION FOR FUEL/OIL LEAKS THAT EXCEED TECH ORDER LIMITS.			
	1	51	DAA	5.	PITOT TUBES AND PITOT TUBE DRAIN HOLES CLEAR OF OBSTRUCTIONS (SEE CARD 1-11).			
	1	51	DB-	6.	PITOT STATIC SYSTEM DRAINED OF MOISTURE, 6 PLACES. DRAIN SCREW O-RINGS FOR SERVICEABLE CONDITION.			
	1	11	DLE	7.	DRAIN FUSELAGE OF MOISTURE AND TRAPPED FLUIDS, PRESSURIZED COMPARTMENT (9 PLACES) IAW T.O. 1B-52G/H-2-2JG-4.			
CARD NO.	WORK AREA(S)		TYPE MECH RQR	MECH NO.	CARD TIME	PUBLICATION NUMBER AND DATE		CHANGE NO.
1-010	1		ACFT MECH			1B-52G-6WC-1 01 MAY 89		1

H8900033

Figure 3-5. Abbreviated TOs - Inspection Workcards

T.O. 1C-135-1095
DATA CODE: 0156732
Date: 25 July 1980
Rescission Date: 25 July 1984

**DEPARTMENT OF THE AIR FORCE
TECHNICAL ORDER**

**MODIFICATION OF BODY DETAILS B-5a AND B-5b
FOR -135 AIRCRAFT (OVERWING BODY FRAMES)**

1. APPLICATION.

a. This technical order is applicable to -135 aircraft.

b. This modification will be accomplished on the following aircraft:

Model	AF Serial No.	Kit
C-135	76 and 60-377	A
		B
		A
		A

UNCLASSIFIED

01 05 241348Z OCT 90 PP UUUU LAA

NO

OC ALC TINKER AFB OK//LAA//

AIG 7382

ACCT AF-ACXJRF

UNCLAS

SUBJ: INTERIM ROUTINE SAFETY TIME COMPLIANCE TECHNICAL ORDER NUMBER
1C-21A-514, DATED 23 OCT 90, DATA CODE 0175639 RESCISSION
DATE 23 OCT 91.

TITLE: ACTIVATION OF INCANDESCENT EMERGENCY LIGHTS C-21A A

NOTE: COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS PUBLIC
THE ATTENTION OF ALL AIR FORCE PERSONNEL CLEARED FOR OPER
AFFECTED SYSTEM.

1. APPLICATION: THIS TECHNICAL ORDER IS APPLICABLE
AIRCRAFT.

2. PURPOSE: THE PURPOSE OF THIS TCTO IS TO RESTO
THE EMERGENCY LIGHTING SYSTEM DEACTIVATED BY TCTO

3. WHEN TO BE ACCOMPLISHED: NOT LATER THAN 60
OF THIS TCTO. FAILURE TO ACCOMPLISH THIS TCTO
NUMBER OF DAYS SHALL RESULT IN A DISCONTINU
EQUIPMENT UNTIL COMPLIANCE IS ACCOMPLISHED

SE TISDT LAAP LAAD

PAUL CUNHA, EQUIP SPEC
LAARD, 63233

GARRY RICHEY, CHIEF, LAA, 63851
CRC: 11093

GARRY D. RICHEY, Deputy Chief
CLS Systems Division
Aircrew Management Directorate

IMMEDIATE ACTION

**DEPARTMENT OF THE AIR FORCE
TECHNICAL ORDER**

INSPECTION OF C/KC-135 CELESTIAL OBSERVATION WINDOWS ON -135 AIRCRAFT

NOTE: This technical order formalizes Interim
Immediate Action TCTO 1C-135-1314, data
code 0172705, dated 22 November 1988,
which will be removed from active files.

NOTE: COMMANDERS ARE RESPONSIBLE FOR BRINGING
THIS PUBLICATION TO THE ATTENTION OF ALL
AIR FORCE PERSONNEL CLEARED FOR OPERATION
OF THE AFFECTED SYSTEM.

1. APPLICATION.

a. This technical order is applicable to all -135 series aircraft.

b. Kits are not required by this TCTO.

c. Proofing waived with concurrence of SMSGT R. Schrock/HQ SAC/LGH, in
accordance with TO 00-5-15.

DISTRIBUTION STATEMENT - Distribution authorized to the
Department of Defense and U.S. Contractors only,
Administrative or Operational Use, 22 November 1988. Other
requests shall be referred to OC-ALC/TISDT, Tinker AFB, OK 73145-
3042.

WARNING - This document contains technical data whose export is
restricted by the Arms Export Control Act (Title 22, U.S.C., Sec
2751 et seq) or the Export Administration Act of 1979, as amended
(Title 50, U.S.C., App. 2401 et seq). Violations of these export
laws are subject to severe criminal penalties.

HANDLING AND DESTRUCTION NOTICE - Handle in compliance with
distribution statement and destroy by any method that will
prevent disclosure of the contents or reconstruction of the
document.

T.O. 1C-135-1314
DATA CODE: 0172705
DATE: 22 NOVEMBER 1988
RESCISSION DATE: 22 MAY 1989

IMMEDIATE ACTION

INTERIM ROUTINE SAFETY

H8900034

Figure 3-6. Time Compliance TOs (Sheet 1 of 2)

SAFETY ROUTINE

DEPARTMENT OF THE AIR FORCE
TECHNICAL ORDER
T.O. 1C-135-1300
DATA CODE: 0172070
DATE: 17 MAY 1988
RESCISSIION DATE: 17 MAY 1989

SAFETY TIME COMPLIANCE TECHNICAL ORDER

INSPECTION OF COMBUSTION CHAMBER OUTER CASE, C-135 AIRCRAFT

NOTE: This technical order formalizes Interim Routine Safety TCTO 1C-135-1300, data code 0172070, dated 17 May 1988, which will be removed from active files.

NOTE: COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS PUBLICATION TO THE ATTENTION OF ALL AIR FORCE PERSONNEL CLEARED FOR OPERATION OF THE AFFECTED SYSTEM.

1. APPLICATION.

a. All C, KC, NC, NKC USAF and Navy).

b. Kits are not re

c. Nonconfigura' paragraph 6-2, by 0'

DISTRIB
Depar
Tech
ALC

G, L, D, Q (active,

DEPARTMENT OF THE AIR FORCE
TECHNICAL ORDER
T.O. 1C-135-1304
DATA CODE: 0172126
DATE: 30 JUNE 1988
RESCISSIION DATE: 30 JUNE 1989

URGENT ACTION

INSPECTION OF RUDDER CABLES ON -135 AIRCRAFT

NOTE: This technical order formalizes Interim Urgent Action TCTO 1C-135-1304, data code 0172126, dated 30 June 1988, which will be removed from active files.

NOTE: COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS PUBLICATION TO THE ATTENTION OF ALL AIR FORCE PERSONNEL CLEARED FOR OPERATION OF THE AFFECTED SYSTEM.

1. order is applicable to all -135 series aircraft.

with concurrence of HQ SAC/LGM, Captain Steward in

DEPARTMENT OF THE AIR FORCE
TECHNICAL ORDER
T.O. 1C-135-1391
DATA CODE: 0171776
DATE: 1 APRIL 1988
RESCISSIION DATE: 1 APRIL 1990

INSPECTION OF LOWER I.F.F. ANTENNA ACCESS DOOR P/N S-86301-1 FOR WATER DRAIN HOLE OF ALL -135 AIRCRAFT

NOTE: COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS PUBLICATION TO THE ATTENTION OF ALL AIR FORCE PERSONNEL CLEARED FOR OPERATION OF THE AFFECTED SYSTEM.

1. APPLICATION.

a. This technical order is applicable to all -135 aircraft.

b. Kits are not required.

c. Proofing waived with concurrence of SMSGT B. Schroeder/HQ SAC/LGM, in accordance with TO 00-5-15.

2. PURPOSE.

To inspect lower I.F.F. antenna access door for water drain hole to correct current moisture (corrosion) problem in this area.

DISTRIBUTION STATEMENT
Department of Defense - Distribution authorized to the Administrative or Operational Use, 1 April 1988. Other requests shall be referred to DC-ALC/TLOD, Tinker AFB, OK 73145-3042.

WARNING - This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2753 et seq) or the Arms Export Administration Act of 1979, as amended (Title 28, U.S.C., App. 2401 et seq). Violations of these export laws are subject to severe criminal penalties.

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ROUTINE

H8900035

Figure 3-6. Time Compliance TOs (Sheet 2 of 2)

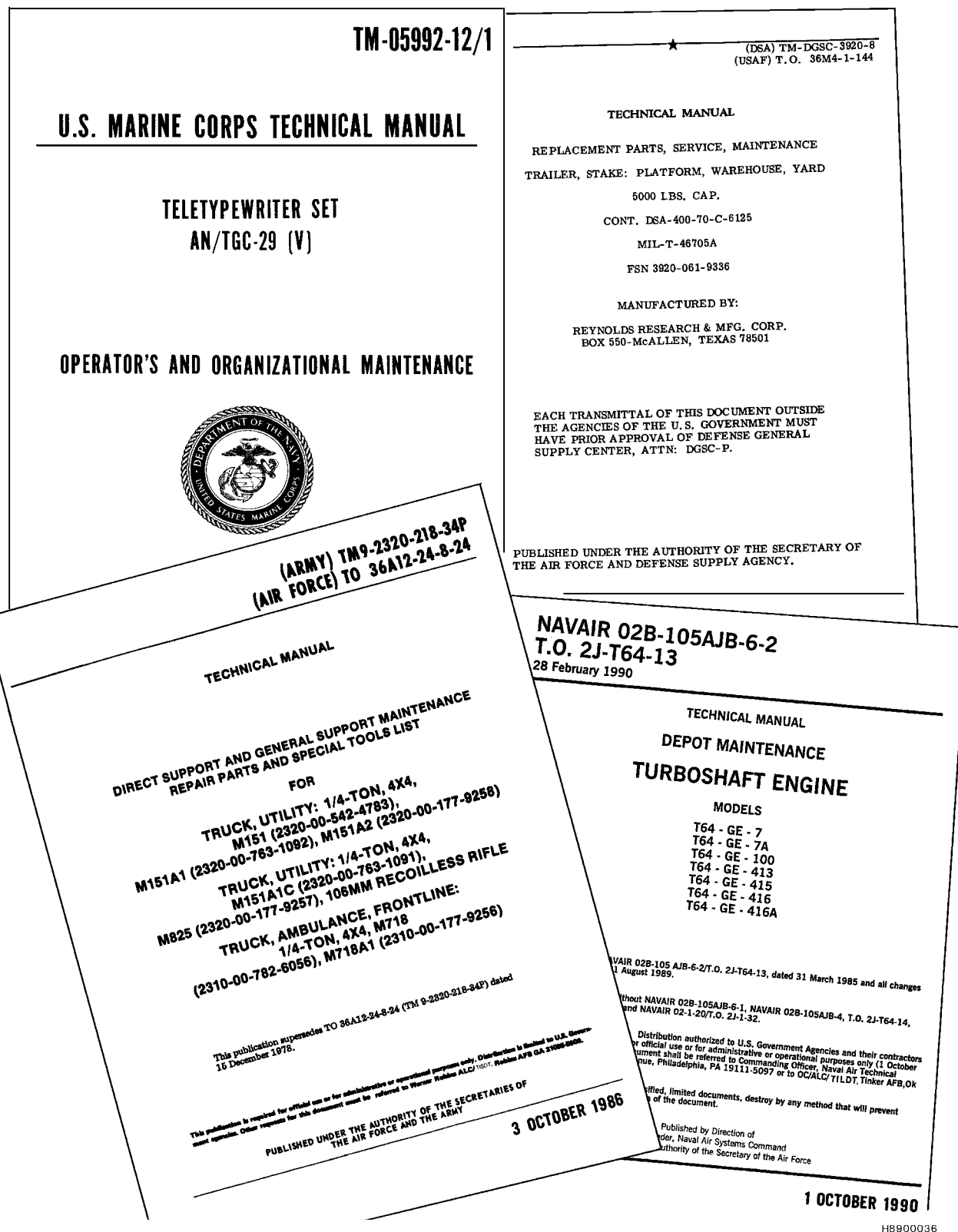


Figure 3-7. Department of the Army, Navy, Marine Corps, and DSA Publications

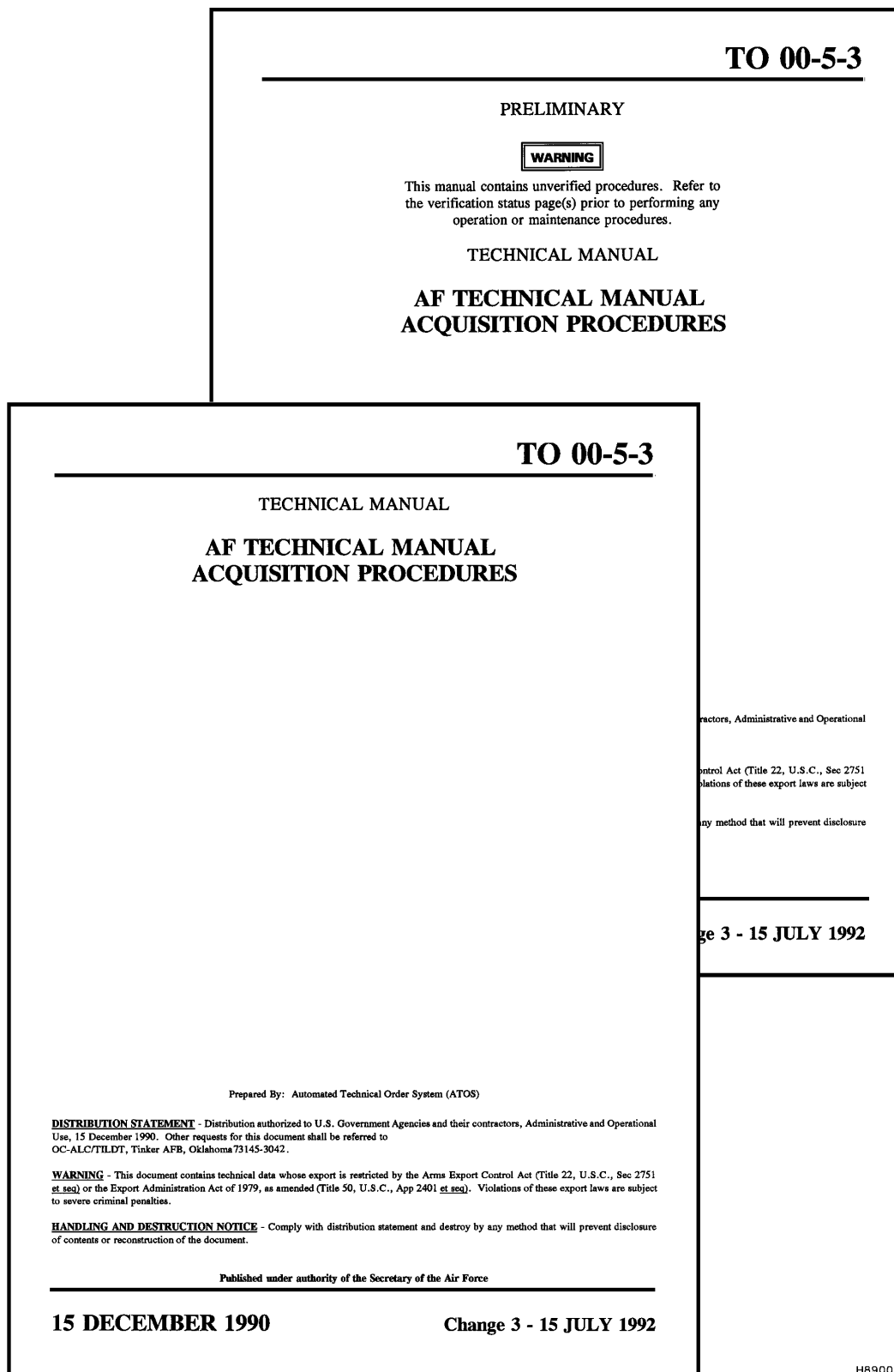


Figure 3-8. Preliminary TO and Formal Replacement

CHAPTER 4

TO INCREMENTS: METHODS OF ISSUE; FRONT MATTER; TYPES OF UPDATES; RESCISSION AND REINSTATEMENT

4-1 GENERAL POLICIES.

The Air Force objective is to ensure TOs are compatible with the applicable military system or commodity at all times. Policies and procedures for updating TOs are described in this chapter. All TO increments (revisions, changes and supplements) will be formatted according to MIL-STD-38784. TO changes, revisions and supplements will be issued and stored by the same ALC or agency as the basic TO. Formal Operational and formal Safety Supplements will no longer be issued except for updating other Services and Commercial manuals – for AF TOs, they are replaced by TO changes. Interim Supplements or Rapid Action Changes (RACs) may only be used for Emergency and Urgent situations (see definitions, chapter 5). A change or revision must replace interim supplements at the next change cycle.

4-1.1 Block Cycle Updates (BCUs). Changes from all sources will be consolidated for publication in periodic TO updates known as BCUs. When TOs are grouped for publication (for example, a “set” of TOs published on a Compact Disk-Read Only Memory [CD-ROM]), the BCUs of the individual TOs must be synchronized to the publication cycle of the CD-ROM. Individual TOs managed by a Single Manager (SM) may also be “blocked” and updated periodically as a group. The BCU period will be determined by the SM in conjunction with the Lead Command, but will not exceed 365 days. The SM may recommend waiving publication of a BCU if no significant recommended changes have been received during the period (must be approved by the Using Command functional manager). If important changes are needed, an out-of-cycle BCU may be published. All routine and many urgent changes, corrections, and enhancements will be handled using the BCU process. Changes formerly issued as formal supplements will be issued in BCUs. The BCU process will produce changes formatted for the TO presentation software, and will be distributed with the basic and change(s) merged into a single, updated TO file. The updated file will simply replace the old file with no posting action required by users. TO sustainment contracts will reflect this policy. Paper TO users will continue receiving copies of changes through the TO Distribution System (TO 00-5-2). EXCEPTIONS: MAJCOM and Base Supplements, and AF Supplements to other DoD Components TMs. Emergency and Urgent changes will continue to be managed according to paragraph 4-5.3 and chapter 5.

4-1.2 TOs on equipment which has been programmed to leave the inventory within two years are not normally changed or revised. Critical updates to such TOs are implemented by issuing an Interim TO (ITO) or Rapid Action Change (RAC) with no intent to publish a formal update to incorporate the ITO or RAC until the next Block Cycle Update (BCU).

4-1.3 When an Air Force TO supplement revises information in another services TM adopted for Air Force use, the information is applicable only to the Air Force. Updates to other services TMs are generated in the same style and format as the basic manual. See chapter 2, paragraph 2-3.11.3 for additional policy.

4-1.4 When a TO update also affects an associated checklist or integrated checklist (see paragraph 4-6.4.4), the updates to the basic manual and the checklist(s) shall be distributed concurrently.

4-1.5 Write-In Changes. Write-in changes to the technical content in TOs are not authorized, except for specified updates to FMP and missile operations TOs (paragraphs 4-6.4.7 and .8). Write-in changes are authorized for corrections to the title page(s) and List of Effective Pages (LEP) and references throughout TOs; they shall be documented in accordance with TO 00-5-2, chapter 3. MAJCOMs may authorize writing in changes provided by interim supplements (supplement required).

4-1.6 Replacement Page. TOs and TO increments distributed with missing or mis-printed pages may be corrected by redistributing the missing/reprinted pages using an errata cover sheet and like item distribution (LID), with instructions to insert/replace the pages into the affected TO. This method will not be used to replace pages when the data content must be changed. LID cannot be used for errata packages sent to SAP/FMS customers, for releasability and billing reasons.

4-2 METHODS OF ISSUING TOs.

4-2.1 Hard Copy. Hard copy is the formal printed paper publication issued for most TOs, including O&M TOs, MPTOs, and TCTOs. Until a unit has the capability to use digital TOs, the paper version will always take precedence.

4-2.2 Digital Media.

4-2.2.1 Most CD-ROMs or other high-density digital media will contain more than one TO, logically grouped by the SM. When this occurs, the CD must be assigned a unique TO number for management and ordering purposes. CDs must be labeled in accordance with paragraph 2-6.1. The TOs on the CD and the paper TO versions must both reflect the most current updates. If a conflict arises, the version that is the most current will be used. If a user cannot view and use digital TOs, the paper version will be used.

4-2.2.2 Some computer programs which automate the function of a TO, such as the weapons delivery ballistics tables or the Automated TO Management System (ATOMS), are numbered and controlled in the TO system.

4-2.2.3 Many Methods and Procedures TOs (MPTOs) are being hosted on file servers accessible through the World Wide Web (WWW or Internet, URL <http://www.pdsm.wpafb.af.mil/toprac/to-syste.htm>), and are also provided on CD-ROM. These TO files are in Indexed Adobe™ Portable Document Format (IPDF), a page-image software. The TOs may be read using Adobe Acrobat™ Reader (available through the listed WWW page, or with BNCC approval, free from the Adobe Home Page).

4-2.3 Electronic Transmission. Interim TOs are electronically transmitted when circumstances preclude the timely publication of formal printed instructions. Detailed instructions concerning the issuance of interim safety and operational supplements and TCTOs are included in this chapter, in AFMCI 21-302 and in TO 00-5-15.

NOTE

ITO messages involving fatality or serious injury to personnel, extensive damage or destruction of equipment, or inability to maintain a mission-essential operational posture will be assigned an IMMEDIATE precedence (DMS "Normal" importance). All others will be sent using PRIORITY precedence (DMS "Low" importance). Use the same precedence for information addresses only if they require the message with the same urgency. Addressees and message subject matter should be reviewed by the originator to determine whether addressees not operating on 24-hour a day schedule require immediate delivery warranting recall of personnel to handle the message, or if delivery could be delayed until reopening of the station. If delay is acceptable, an appropriate notation should be made at the start of the message text.

4-3 TITLE PAGES; LEPs; VSPs; CHANGE PAGE MARKING.

4-3.1 Title Pages. All TOs and TO updates except for interim TOs will have a title page formatted according to MIL-STD-38784 (figure 4-1). In addition, when required, the TO may have a second title page, numbered T-2 (figure 4-2), to provide space for required warnings and notices. The date an update becomes effective will be included when this date is later than the update issue date. A supersedure notice will list all previously-published updates included in the new TO increment. Digital TOs will either include a title "page" or include all required information, warnings and notices in an opening screen view.

4-3.2 Abbreviated Titles. For TOs of eight pages or less, an abbreviated title may be used and all updates will be issued as revisions, without a LEP.

4-3.3 List of Effective Pages (LEP). All page-based TOs, revisions, changes and some supplements contain a LEP (figure 4-3) reflecting the dates of the basic or revision and any changes, and the change number of each page within the manual. LEPs, commonly called "A" pages, follow the title and T-2 pages. The first LEP is numbered "A" with additional LEPs, if required, numbered sequentially through the alphabet in capital letters. Under the "Page Number" column, all of the TO pages are listed. Pages in unbroken numerical sequence are listed as "i - vi," "1-1 - 1-8," "2-1 - 2-16," etc. Under the "Change No." column, the change numbers for each page or series of pages are listed, such as 1, 2, 3. A zero (0) indicates a blank page or

an original issue page or group of pages of the TO. The words “Deleted,” “Added,” or “Blank” are shown between affected page numbers and the change number. Page oriented TOs will also include an “LEP.”

4-3.4 Verification Status Pages (VSPs). VSPs will be included in PTOs and formal TOs containing unverified procedures. These pages will immediately follow the LEP and be formatted and numbered according to MIL-STD-38784. A WARNING shall be placed on the TO title page in accordance with MIL-STD-38784. VSPs must be reviewed to check the verification status before attempting to use any procedure. As procedures in a TO are verified, updates will be issued to revise the VSP, or delete it along with any verification-related warnings or notes once all procedures are verified. Digital TOs will also include a VSP or Verification Status Screen.

4-3.5 Change Page Marking. The applicable change numbers are reflected next to the page number on each of the changed pages. Whenever feasible, change bars (vertical black lines in page borders) will indicate where new text changes in an update or revision occur. Corrections of minor inaccuracies of a non-technical nature such as spelling and punctuation will not be marked with a change bar unless the correction changes the meaning of instructive information and procedures. A miniature pointing hand may be used to indicate updates to illustrations or line drawings. Shading and screening may be used to highlight updated areas on diagrams and schematics. Changes that alter procedures or technical information dependant upon the configuration of equipment, such as TCTO-related “before” and “after” data, will be differentiated by use of “Effectivity Codes” (see MIL-STD-38784). The codes and their meanings will be listed in the TO front matter. EXAMPLE: “1-2. (1) - Prior to compliance with TCTO 1F-XXXX-525)...” and “1-2. (2) - After compliance with TCTO 1F-XXX-525)...” Page-oriented digital TOs will use similar markings to indicate changed data. Procedures for making changed data in non-page-oriented digital TO files are TBD.

4-4 TO REVISIONS.

A revision is a second or subsequent edition of a manual which supersedes the preceding edition. A revision incorporates all previous changes, supplements and new data that would normally have required a separate update, into the basic TO. Revisions may be prepared to existing TO style and format or the current version MILSPEC, depending on cost-effectiveness and usability.

4-4.1 The need for a revision will be based on factors such as the impact of changes and supplements on the usability of the TO, urgency of need for update, cost, quantity of stock on hand, and the existence of a reprint merging existing updates.

4-4.2 When an FMP scroll or digitized checklist (one displayed on a video display terminal in the aircraft) changes, the complete checklist is revised.

4-5 TO CHANGES.

Changes are issued when only part of the existing TO is affected. New pages in a change replace the corresponding numbered pages in the existing TO. All replaced pages are destroyed in accordance with the handling and destruction notice, when applicable (See paragraph 2-6.1.5). Use changes or Rapid Action Changes (RACs - see below) instead of supplements to update digital TOs.

4-5.1 If a change contains new material that cannot be included on an existing page, new pages are inserted between or after the affected pages: added pages are assigned the preceding page number and a suffix, such as 2-2.1 or 2-2A, etc., depending on the style of the manual and will be consistent throughout the manual. Pages added at the end of a chapter or section continue the page numbering in normal sequence. Blank pages are used as needed to avoid renumbering or issuing more than the minimum number of subsequent pages.

4-5.2 Change packages are assembled and distributed with all foldout pages in the back of the package to expedite printing.

4-5.3 Rapid Action Changes (RACs). RACs are merely TO Changes distributed electronically, which are used in place of interim supplements (paragraph 4-6.6). RACs will not be used if update timelines can be met by an in-work BCU, or it is cost effective to produce an out-of-cycle BCU.

4-5.3.1 A RAC package will include, as a minimum, the TO title page, a new List of Effective Pages (LEP), at least one data page affected by the Emergency or Urgent update, and a corresponding backing page for each changed page (to support paper users). The title page must include a Supersedure Notice identifying the affected TO Basic date and superseded changes. They are formatted using the digital TOs composition software to allow seamless merging with the basic TO file. If the RAC is not composed for seamless merging,

regardless of presentation format (page- or non-page-oriented), the data must be directly accessible via hyperlink to and from the affected location in the TO.

4-5.3.2 RCAs will either be merged with the baseline TO file at the ALC or, when the capability exists, by TODOs in the field. The merged TO will be distributed along with the stand-alone RAC file (preferred) via FTP or e-mail attachment; or if TODOs will merge the RAC and basic TO (option 2), the stand-alone RAC file only will be distributed using the same methods. The second option is usable only if all affected TODOs are using nothing but paper copies of the affected TO, or they have the means and training to merge the RAC file with their digital TO file in the field. In either option, TODOs will print and copy the RAC for their accounts using paper copies of the affected TO.

4-6 TO SUPPLEMENTS.

Supplements are issued to augment or change data in the basic TO without replacing the existing pages. The only authorized types are interim operational and safety supplements (IOS and ISS), and interim and formal TCTO supplements (TCTOS and ITCTOS). Replacing existing formal supplements in the next routine TO change or revision. See paragraph 4-6.6 for MAJCOM and base supplements.

NOTE

- Use TO changes instead of formal operational and safety supplements. Routine updates to TOs distributed electronically (CD-ROM, WWW, etc.) will be made using only changes formatted for the TOs composition software, and will be distributed with the basic and change(s) merged into a single, updated TO file. EXCEPTIONS: MAJCOM and Base Supplements, and AF Supplements to other DoD Components TMs.
- RACs (paragraph 4-5.3) will be used in place of IOSs and ISSs for Emergency or Urgent updates to electronically-distributed TOs between BCU periods.

4-6.1 General. Some policies apply to all types of supplements. These are:

4-6.1.1 Supplementing supplements is not authorized.

4-6.1.2 Supplements will NOT be issued to isolate classified material and permit issuance of unclassified basic TOs. Use supplemental manuals (paragraph 3-7) instead.

4-6.1.3 Supplements may be cumulative or non-cumulative. A cumulative supplement supersedes all outstanding supplements and includes all previously-published information that has not been incorporated into the basic TO. Non-cumulative supplements are independent of other unincorporated supplements.

4-6.1.4 Supplements will have the same title as the TO they supplement. Supplements are numbered according to chapter 3, paragraph 3-13.

4-6.1.5 If a supplement is not fully incorporated in the next TO update, the unincorporated data must be reissued in a new supplement. If a supplement will not be incorporated (paragraph 4-6.4.9.1), it must be reissued when a TO revision is issued.

4-6.1.6 Supplements reflect the affected page, paragraph, figure number, etc., of the information being added, changed or deleted. To indicate that a particular paragraph is supplemented, circle the paragraph number in the TO and write the supplement number next to the paragraph in pencil.

4-6.1.7 Interim safety and interim operational supplements for use with FMP publications will include a supplement status page (figure 4-6).

4-6.1.8 When the responsible SM is notified by the lead command that a TO is becoming difficult to use due to the number and character of the outstanding supplements, the TO will be reviewed by the assigned TO Manager, TCM and user representatives. If the review confirms the reported difficulty, the TO may be updated by either a change or revision.

4-6.2 TO Page Supplements (TOPS).

TOPS will not be used to update TOs for any reason. Information formerly provided via TOPS should be included on fully-composed replacement pages. Where both before and after modification data is required (as with TCTO-related changes), effectivity codes (paragraph 4-3.5) should be used to differentiate between paragraphs applicable to different versions/modifications of the affected equipment.

4-6.2.1 The following information applies to previously-issued TOPS.

4-6.2.2 TOPS were issued to supplement individual pages of a TO. They were printed on green paper to distinguish them from other supplements. TOPS have the same title as the basic TO. TOPS are listed in the TO Catalog following the basic TO, latest TO change, and safety and operational supplements. TOPS are cumulative or non cumulative. A cumulative TOPS contains only new or changed TOPS data pages, even though it lists all unreplaced pages from prior TOPS. Unchanged TOPS data pages are not reissued. Users do not remove unchanged pages from affected TOs. TOPS shall be superseded by a TO change or revision.

4-6.2.3 TOPS are an abbreviated title rather than a full title page, with a LEP directly below the title block. TOPS data pages include the TOPS number and page number centered at the page top and bottom, respectively. TOPS page numbers are the same as the TO page they modify. If more than one TOPS page applies to a TO page, the second and subsequent pages are numbered ".1," ".2," etc. TOPS pages which were the result of a TCTO or which supersede other TOPS pages are so marked. Each TOPS page contains only that data actually changed on the facing page in the TO, preferably in the same location on the page.

4-6.3 Routine Supplements. Issue routine supplements only to TCTOs, commercial manuals, and publications such as Army manuals adopted for Air Force use. Routine supplements to TCTOs are covered in TO 00-5-15. Routine supplements to commercial manuals are covered in paragraph 4-7 and MIL-HDBK-1221, Manuals, Commercial Off-The-Shelf (COTS). Routine supplements will not be issued as interim TOs or RACs.

4-6.3.1 For joint-use TMs, each service is responsible for publishing their own supplements when the need arises. The lead service TCM and the using services TCMs must establish standard update procedures to ensure that urgent and routine information is provided to TM users in the appropriate time frames. TCMs must review technical content changes prior to publication by the lead service, determine applicability, and distribute only those applicable to their customers.

4-6.4 Interim Operational and Safety Supplements (Figures 4-4 and 4-5). Operational supplements are issued as a rapid means of changing information in TOs when work stoppages, production stoppages, or mission essential operational deficiencies are involved. Safety supplements are only issued when a hazardous or safety condition exists. Rapid Action Changes (RACs) will be used in place of IOSs and ISSs whenever possible. AFMCI 21-302 provides the requirements for development, coordination and approval, and distribution of interim supplements and TCTOs.

NOTE

TOs will NOT be updated using Interim Changes (ICs, formerly known as "IMCs,") which AFI 33-360V1 specifies for updating standard publications. Authorized types of ITOs are interim operational and safety supplements (IOS and ISS), and Interim TCTOs (ITCTOs) and ITCTO Supplements. The latter two are covered in TO 00-5-15 and AFMCI 21-302.

4-6.4.1 Interim Safety Supplements (ISSs) will be issued when safety conditions would (Emergency) or could (Urgent) result in a fatality or serious injury to personnel, or when extensive damage or destruction of equipment or property is involved.

4-6.4.2 Emergency Interim Operational Supplements (IOSs) will be issued when the using command is unable to achieve or maintain operational posture (MISSION ESSENTIAL), including field-level work stoppage. Urgent IOSs will be issued for situations that reduce operational efficiency or probability of mission accomplishment, or could result in over \$5,000 or 250 man-hours annual savings to the Air Force. Submit replacements for EPA hazardous materials (HAZMAT) and ozone depleting chemicals (ODC) as urgent.

4-6.4.3 ISSs and IOSs will not be used when a RAC can be issued within the required response times (48 hours for Emergency or 40 days for Urgent).

4-6.4.4 If the data in a supplement affects both a TO and its associated checklists/workcards, separate supplements or formal changes must be issued against the TO and each abbreviated TO affected. When it is possible to distribute formatted pages (using e-mail, fax or the Defense Message System (DMS)), temporary checklist/workcard pages may be included with the basic TO supplement. Temporary pages will be locally reproduced as needed – they cannot be requisitioned.

4-6.4.5 Whenever the information in a supplement is applicable to more than one TO, an individual supplement will be issued for each TO involved.

4-6.4.6 The TO Management Activity having responsibility for the affected TO issues and distributes ISSs and IOSs. The TO Manager will ensure the appropriate message precedence is assigned. (IMMEDIATE or PRIORITY in the AUTODIN system, "Normal" or "Low" in DMS.) OC-ALC/TILUB shall be an addressee on all interim supplements. The TO Manager is responsible for the incorporation of ISSs and IOSs.

4-6.4.7 ISSs and IOSs affecting FMP TO checklists will be issued against the basic TO rather than against the checklist. The FMM must issue an ISS or IOS within 48 hours after receipt of MAJCOM-approved and validated information. The interim supplement must include instructions authorizing write-in changes to the checklist, as well as changes to any affected integrated checklist. When safety-of-flight is involved, the FMM may authorize write-in changes to scroll checklists.

4-6.4.8 When an ISS or IOS is issued to a missile system operations manual that affects checklist procedures, crew members may make write-in changes to the affected checklist provided it is specifically authorized by the supplement.

4-6.4.9 Except as indicated below, an ISS will be replaced within 40 calendar days from the message date by a TO change or revision. An IOS will be incorporated in the next scheduled formal TO change or revision, but not later than 365 calendar days from the message date.

NOTE

ISSs and IOSs remain in effect until specifically incorporated, superseded or rescinded, no matter how long the period.

4-6.4.9.1 ISSs and IOSs issued to provide temporary instructions (e.g., restrictions to operating parameters pending completion of a TCTO, use of prototype equipment for flight test, etc.) may remain active until completion of the task or project causing their issue.

4-6.4.9.2 Temporary FMP checklist pages transmitted with ISSs and IOSs will be replaced by concurrent issue of a TO change or revision to both the FMP TO and the related checklist. The TO change or revision, as appropriate, is prepared after the FMM has validated and refined the contents of the interim, and has requested issuance.

4-6.5 Explosive Ordnance Disposal (EOD) Supplements. Joint-service nonnuclear EOD TO operational and safety supplements will be issued in accordance with joint-service-approved procedures when the data is not incorporated in an immediate reprint of the affected TO. Procedural questions about these TO supplements should be addressed to Det 63, AAC/CC (table 5-1), for resolution.

4-6.6 MAJCOM and Base Supplements.

4-6.6.1 When a MAJCOM publishes an MPTO supplement it will be numbered to identify the command and the TO number, but without reference to the term "TO" or "TM." Base supplements must adhere to the same requirements as MAJCOM supplements. A single base organization will be assigned responsibility to ensure the supplement includes all other base TO users requirements. The base OPR will provide an information copy of published supplements to the MAJCOM AF CTOM Committee representative for each affected unit.

4-6.6.2 Supplements should adhere to standard format, page size, and drilling requirements of the basic TO. These supplements will be filed in the back of the appropriate manual, not interfiled within the TO. The preparing activity will determine the quantity and distribution of the supplement. Additional copies must be provided to OC-ALC/TILDT (TO 00-5-1 and 00-5-3); OC-ALC/TILU (TO 00-5-2); WR-ALC/TILT (TO 00-5-15); MSG/MMF (all 00-5-series), 4375 Chidlaw Rd, Ste 6, WPAFB OH 45433-5006; and HQ AFMC/SES (TO 00-25-172), 4170 Hebble Creek Rd, Ste 2, WPAFB OH 45433-5645. See table 5-1 for ALC addresses.

4-6.6.3 Supplements to Aircraft or Missile Inventory (-21) TOs. MAJCOMs may supplement -21 TOs to show assets that are unique to a particular MDS and peculiar to the MAJCOM (AFI 21-103, chapter 9). The supplement will be numbered in the same manner as a supplement to an MPTO. A copy of all -21 supplements must be sent to HQ USAF/ILMM, ANG/LGMM, and HQ AFRC/ LGMM.

4-6.6.4 Supplementing Digital TOs. Authorized personnel at MAJCOMs and Bases will use the following procedures to supplement TOs provided in Indexed Adobe™ Portable Document Format (IPDF). Similar procedures may be usable for TOs provided in other application software formats. IPDF files may be viewed

(but not modified) using Adobe® Acrobat Reader™ (free from Adobe or download from the TO System Information page (paragraph 1-1.2).

4-6.6.4.1 First, develop the MAJCOM or Base supplement using a word-processing program (formatted and numbered as above and in chapter 3).

4-6.6.4.2 Download the TO file from its distribution medium (usually Internet or CD-ROM). Open the file using Adobe® Acrobat Exchange™, and use the “NOTE” function to annotate the supplement changes next to the affected paragraphs in the TO file (see paragraph 4-6.1.5). Either use “cut and paste” to bring the changes from the supplement file into the note itself, or establish a link from the affected TO paragraph to the supplement paragraph. The procedure in paragraph 4-6.6.4.3 will have to be completed before using the “Link” tool.

NOTE

Adobe Acrobat® Exchange™ is available at substantial savings through the Adobe Government Volume Purchase Plan program when ordering specified quantities.

4-6.6.4.3 When all changes have been annotated, convert the supplement word processing format to a PDF file using PDF Writer™ (part of Acrobat Exchange™). Attach the supplement file to the end of the TO IPDF file (this will allow printing the supplement for paper TO users). Use either the “Note” or “Form” functions (set to read-only) to annotate the supplement (number, date posted, and initials of person posting it on the TO title page. Upload the TO file with notes and attached supplement to a MAJCOM Internet server or Base Local Area Network (LAN) server.

4-6.6.4.4 Notify MAJCOM/Base digital TO users of the file location, and direct use of the MAJCOM/Base file. For paper TO users, direct local TO Distribution Offices (TODOs) to download the file and print the attached supplement. Reproduce sufficient copies (copy double-sided) to satisfy local requirements. Electronic files do not require any additional paragraph annotations. Annotate paper TOs according to paragraph 4-6.1.5.

4-7 IDENTIFYING TECHNICAL PUBLICATIONS SHEETS (ITPS).

An ITPS (figure 4-7) is issued according to MIL-HDBK-1221 to identify a change or supplement to a commercial or contractor manual; they will be numbered as routine supplements. An ITPS will not be issued solely to add the TO number, distribution/ destruction/export control statements and date to an unmodified commercial manual, if these were assigned prior to distribution and there is sufficient clear space on the existing title page to overprint or stamp the required data. The actual change or supplement for the commercial manual (if required by MIL-HDBK-1221) will be developed according to MIL-STD-38784 and any content MIL-PRFs applicable.

4-8 LOCAL TECHNICAL DATA.

The following procedures will be used when issuing locally-prepared workcards, checklists, job guides or page supplements; the Operations and/or Logistics Group Commander(s) or other office determined by the MAJCOM will sign the title pages. MAJCOMs will establish policies for management of other locally-prepared data.

4-8.1 Local workcards, checklists, job guides or page supplements will be afforded the same control as the basic TO and adequate procedures will be established to ensure that they are kept current with the source TO. Local data must include a title page with the number, title and date of the TO affected, the issue date of the local document, a LEP, locally-generated pages and posting instructions. Local workcards, checklists and job guides are stand-alone documents and as such are not interfiled in TO binders with the related TO.

4-8.2 The preparing activity will assign individual identification numbers to their local workcards, checklists, job guides and page supplements for control purposes. TO numbers alone will not be used to identify local data, but may be used as a part of the identification number. Identification numbers shall consist of LWC (workcard), LCL (checklist), LJG (job guide) or LPS (page supplement) followed by the originating organization designation and the TO number or a designator selected by the originator.

4-8.3 Local Page Supplements. The front matter of page supplements is filed in front of the TO title page. Page supplements should be printed on colored paper (other than green) to distinguish them from other TO increments. Workcard page supplements which establish additional inspection requirements may use any

format which provides all applicable data captions. Procedures for local page supplements will normally be similar to those for TOPS (paragraph 4-6.2).

4-8.4 Copies of all locally developed workcards, checklists, job guides and page supplements may be forwarded by cover letter to the MAJCOM or gaining command to be reviewed for command-wide application (MAJCOM option). Those adopted command-wide may be forwarded to the SM for consideration for Air Force-wide application. EXCEPTIONS: Local workcards for "training use only" aerospace vehicles and support equipment will be kept at the local level. Local workcards for ground C-E equipment (except CRYPTOLOGIC equipment) that is not listed in the REMIS SRD push down table will be retained at the local level.

4-9 RESCISSION.

TOs are rescinded for Air Force use when the information is no longer required, is incorporated in other publications, or the rescission date (for TCTOs) has expired. Some TOs rescinded for Air Force use are retained for Security Assistance Program use (TO 00-5-19). Official notification of all rescissions is provided by appropriate entries in TO Catalogs.

4-10 REINSTATEMENT.

4-10.1 When it is necessary to reinstate a TO which has been rescinded, a revision will be issued and ID will be made in the same manner as for a new TO. The revision will carry a new publication date and the following note in place of the usual replacement note: "This technical manual is issued for the purpose of reinstating rescinded TO _____, dated _____."

4-10.2 Rescinded supplements will not be reinstated. A new supplement will be issued when necessary to include valid data from a rescinded supplement.

T.O. 1F-16CG-2-31JG-00-1

TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE

JOB GUIDE

**CRASH SURVIVABLE FLIGHT DATA
RECORDER SYSTEM**

**USAF SERIES
F-16C/D
AIRCRAFT**

BLOCKS 40 AND 42

GENERAL DYNAMICS FORT WORTH DIVISION

F33657-84-C-0247

F33657-88-C-0037

See reverse side (Page T-2) for distribution, supersedure, and other information.

Published under authority of the Secretary of the Air Force.

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15 JUNE 1989

CHANGE 10

26 FEBRUARY 1993

H8900038

Figure 4-1. Example of a TO Title Page According to MIL-M-38784B

T O 1F-16CG-2-31JG-00-1

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Comply with distribution statement and destroy by any method that will prevent disclosure of contents or reconstruction of the document.

T-2 Change 9

H9400003

Figure 4-2. T-2 Page

T.O. 15A8-5-64-8-1

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

LIST OF EFFECTIVE PAGES

NOTE: The portion of the text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages are:

Original 0 15 July 1976 Change 3 1 February 1984
 Change 1 15 March 1983 Change 4 1 January 1989
 Change 2 15 September 1983 Change 5 1 September 1994

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 234, CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Title	5	3-99 - 3-135	2		
A	5	3-136 Blank	2		
a	4	4-1	4		
b Blank	4	4-2 Blank	4		
i - ii	4	Glossary 1 - Glossary 2	4		
1-1	3				
1-2	4				
1-3	2				
1-4 Blank	2				
2-1	4				
2-2	2				
3-1 - 3-2	5				
3-3 - 3-4	1				
3-4A - 3-4B	3				
3-4C - 3-4H	4				
3-5	4				
3-6	2				
3-6A - 3-6B	2				
3-7 - 3-8	2				
3-9 - 3-10	4				
3-10A	2				
3-10B	4				
3-10C - 3-10D	2				
3-11 - 3-66	0				
3-66A - 3-66H	2				
3-66J - 3-66N	2				
3-66P - 3-66V	2				
3-66W	4				
3-66X	2				
3-66X1	4				
3-66X2 Blank	4				
3-66Y	3				
3-66Z	2				
3-66AA - 3-66AH	2				
3-66AJ - 3-66AN	2				
3-66AP - 3-66AZ	2				
3-66BA - 3-66BH	2				
3-66BJ - 3-66BN	2				
3-66BP - 3-66BT	2				
3-67 - 3-83	0				
3-84 - 3-89	2				
3-90 - 3-98	0				

*Zero in this column indicates an original page

A Change 5

USAF
H9404286

Figure 4-3. Example of a List of Effective Pages

{Message Precedence – Normal or Low DMS Priority (dependent upon urgency of subject)} – UNCLASSIFIED EFTO

FROM: AFMC ORGANIZATION//SINGLE MANAGER'S OFFICE SYMBOL//
TO: DMS MAIL LIST OR PERSONAL DISTRIBUTION LIST (ML or PDL), AS APPROPRIATE
{See AFMCI 21-302}

OC-ALC/TINKER AFB OK//TILUB// {MANDATORY}

UNCLAS EFTO

SUBJ: INTERIM (SAFETY or OPERATIONAL) SUPPLEMENT T.O. (Supplement number), DATED (date)

1. THIS PUBLICATION SUPPLEMENTS T.O. (number), DATED (date), TITLE: (title of basic T.O.). {When applicable, enter} "THIS MESSAGE SUPERSEDES INTERIM {SAFETY or OPERATIONAL} SUPPLEMENT T.O. (supplement number), DATED (date)." A SUITABLE REFERENCE TO THIS SUPPLEMENT WILL BE MADE ON THE TITLE PAGE OF THE BASIC PUBLICATION. COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS SUPPLEMENT TO THE ATTENTION OF ALL AFFECTED AF PERSONNEL. MAJCOMs, FOAs, AND DRUs ARE RESPONSIBLE FOR RETRANSMITTING THIS {ISS or IOS} TO SUBORDINATE UNITS NOT INCLUDED AS ADDRESSEES ON THIS MESSAGE.

2. DISTRIBUTION STATEMENT (IAW DODD 5230.24 and AFI 61-204).

3. {When applicable enter} DISCLOSURE NOTICE (IAW MIL-STD-38784).

4. {When applicable enter} EXPORT CONTROL WARNING (IAW DODD 5230.24 and AFI 61-204).

5. {When applicable enter} HANDLING AND DESTRUCTION NOTICE (IAW MIL-STD-38784).

6. PURPOSE: THIS SUPPLEMENT IS ISSUED TO AMEND THE BASIC PUBLICATION.

7. INSTRUCTIONS:

A. PAGE (number). PARAGRAPH (number) IS (specific action, e.g., "amended to read," "deleted in its entirety," "amended to add the following subparagraph," etc.)

B. PAGE (number). PARAGRAPH (number) IS (etc.)

8. THE TECHNICAL CONTENT MANAGER (TCM) FOR THIS SUPPLEMENT IS (name, office symbol, DSN/Commercial phone number, e-mail address). THE TO MANAGER FOR THIS SUPPLEMENT IS (name, office symbol, DSN/Commercial phone number, e-mail address).

THE END

Figure 4-4. Format for Interim Safety/Operational Supplement (Except FMP Publications)

{Message Precedence – Normal or Low DMS Priority (dependent upon urgency of subject)} – UNCLASSIFIED EFTO

FROM: AFMC ORGANIZATION//SINGLE MANAGER'S OFFICE SYMBOL//
 TO: DMS MAIL LIST OR PERSONAL DISTRIBUTION LIST (ML or PDL), AS APPROPRIATE {See AFMCI 21-302}

OC-ALC/TINKER AFB OK//TILUB// {MANDATORY}

UNCLAS EFTO

SUBJ: INTERIM (SAFETY or OPERATIONAL) SUPPLEMENT T.O. (Supplement number), DATED (date)

1. THIS PUBLICATION SUPPLEMENTS FLIGHT MANUAL (number), DATED (date), TITLE: (title of basic T.O.), CHANGE-NO. (number), DATED (date). {When applicable, enter} "THIS MESSAGE SUPERSEDES INTERIM {SAFETY or OPERATIONAL} SUPPLEMENT T.O. (supplement number), DATED (date)." COMMANDERS ARE RESPONSIBLE FOR BRING-ING THIS SUPPLEMENT TO THE ATTENTION OF ALL AFFECTED AF PERSONNEL. MAJCOMs, FOAs, AND DRUs ARE RESPONSIBLE FOR RETRANSMITTING THIS {ISS or IOS} TO SUBORDINATE UNITS NOT INCLUDED AS ADDRESSEES ON THIS MESSAGE.

2. DISTRIBUTION STATEMENT (IAW DODD 5230.24 and AFI 61-204).

3. {When applicable enter} DISCLOSURE NOTICE (IAW MIL-STD-38784).

4. {When applicable enter} EXPORT CONTROL WARNING (IAW DODD 5230.24 and AFI 61-204).

5. {When applicable enter} HANDLING AND DESTRUCTION NOTICE (IAW MIL-STD-38784).

6. NOTICE TO AIRCREWS:

WRITE THE NUMBER OF THIS SUPPLEMENT ALONGSIDE THE CHANGED PORTION OF THE FLIGHT MANUAL. {When applicable, enter } ABBREVIATED FLIGHT CREW CHECKLISTS ARE AFFECTED BY THIS SUPPLEMENT. PEN AND INK WRITE-INS ARE AUTHORIZED TO ACCOMPLISH THE INSTRUCTIONS OF THIS SUPPLEMENT.

7. PURPOSE: THIS SUPPLEMENT IS ISSUED TO AMEND THE BASIC PUBLICATION.

8. INSTRUCTIONS:

A. ON PAGE (number), THE FIRST PARAGRAPH OF (paragraph header) IS (specific action, e.g., deleted, changed to read, add new sentence, etc.).

B. ON PAGE (number), THE (number) PARAGRAPH OF (paragraph header) IS (etc.)

9. THE FLIGHT MANUAL MANAGER FOR THIS SUPPLEMENT IS (name, office symbol, DSN/Commercial phone number, e-mail address).

10. STATUS PAGE:

A. CHECKLISTS AFFECTED:

(List all checklists affected by checklist number, date, and change numbers and dates)

B. SAFETY AND OPERATIONAL SUPPLEMENTS:

(List all current and effective supplements by number, date, and short title.)

THE END

Figure 4-5. Format for FMP Publication Interim Safety/Operational Supplements

STATUS PAGE

This page is published with each formal Safety and Operational Supplement for flight manual program publications. It contains a listing of the affected flight manual and its related supplements and checklists current on the date of this publication. Changes or Revisions in production are shown in parentheses. ()*.

AIRCREW FLIGHT MANUAL
 T.O. 1C-135(R)S-1

DATE
 15 Oct 69

CHANGE NO. AND DATE
 44 10 Oct 84
FLIGHT CREW CHECKLISTS
 T.O. 1C-135(R)S-1CL-1
 T.O. 1C-135(R)S-1CL-2
 T.O. 1C-135(R)S-1CL-4

DATE
 10 Oct 78
 15 Oct 69
 10 Feb 78

CHANGE NO. AND DATE
 17 10 Oct 84
 30 10 Oct 84
 8 10 Jun 84

**SAFETY AND OPERATIONAL
 SUPPLEMENTS**

 1S-21(I)
 1S-22(I)
 1S-23

DATE
 20 Nov 84
 11 Dec 84
 15 Jan 85

SHORT TITLE
 Hard Landings
 ARR System Purge
 IFQ/CGS Fuel System

*Estimated distribution date ---

H9262613

Figure 4-6. Example of Status Page

PUBLICATION NUMBER (TM Designator)
**IDENTIFYING TECHNICAL PUBLICATION SHEET
FOR
COMMERCIAL MANUAL/SUPPLEMENTAL DATA**
(Supersedure notice or other notes if any)

1. **PURPOSE:** This Identifying Technical Publication Sheet is issued for the purpose of identifying an authorized commercial manual for Air Force use and for providing supplemental information thereto.

MANUFACTURER: (Name, address, and telephone number)

PURCHASE ORDER NO.: (If furnished by the acquiring activity)

REQUISITION NO: (If furnished by the acquiring activity)

EQUIPMENT: (Type, model, part number, nomenclature, Federal Item Name, NSN, serial numbers)

TITLE: (Operating Instructions, Maintenance Instructions, Parts List, as appropriate)

ADDITIONAL IDENTIFICATION (if any): Volumes, Parts, etc.

ADDITIONAL IDENTIFICATION (if any): Volumes, Parts, etc.

DATE: (if any)

ADDITIONAL COPIES: Additional copies are available from _____. (Acquiring activity will furnish information, but if no information is furnished, this paragraph will be omitted and the following paragraph moved up into its place.)

FILE LOCATION: The above described commercial manual is filed in _____. (If this identifying technical publication sheet is not filed with the commercial TM, each library should fill in this blank space.)

AUTHORITY NOTICE, DISTRIBUTION STATEMENT, EXPORT CONTROL WARNING DISCLOSURE NOTICE, HANDLING AND DESTRUCTION NOTICE: (As applicable, in accordance with MIL-STD-1806 and MIL-M-38784).

NOTICE: Reproduction for non-military use of the information or illustrations contained in the basic commercial manual cited above is not permitted. The policy for military use reproduction is covered by the following copyright notice: (Enter Government's copyright license pursuant to the DFARS, Clauses 52.227-7013 and 52.227-7018.)

FOR CLASSIFIED MANUALS

NOTICE: This material contains information affecting the national defense of the United States within the meaning of the Espionage Laws, Title 18, U.S.C., Section 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

SUPPLEMENTAL DATA

1. **LIST OF AFFECTED PAGES IN BASIC MANUAL.** (This list will identify pages, by number, and the date thereon that have been deleted and added by incorporation of supplemental data.)
2. **SUPPLEMENTARY INFORMATION.** The information contained in the above identified commercial manual is supplemented as follows.
 - a. Introduction/Description
 - b. Preparation for Use and Installation Instructions
 - c. General Theory of Operation
 - d. Operating Instructions
 - e. Maintenance Instructions
 - f. Parts List

(Data will be inserted by the contractor as required by the contracting activity.)

DATE

Figure 4-7. Format for Identifying Technical Publication Sheet for Commercial Manual/Supplemental Data

CHAPTER 5

TO IMPROVEMENT REPORTING SYSTEM

5-1 GENERAL.

Corrections and recommended improvements to formal TOs and those PTOs authorized for operational and maintenance use will be entered into JCALS using the "Recommend a TM Change" process at the lowest coordination level (initiator, supervisor, PIM, CCP, etc.) having access to and authorization to use a JCALS terminal. TO users not on-line with JCALS shall submit AFTO Forms 22 via e-mail attachment through coordination channels to the TO Manager. Any person discovering a condition requiring a change to a TO will submit a recommended change (the generic term for either the JCALS screen or the AFTO Form 22). The use of the AFTO Form 22 by industry is authorized by OMB number 0704-0188 (Data Item Description DI-TMSS-80229).

5-1.1 HQ USAF/ILMM has authorized adoption of the AFTO Form 22 for submitting improvements to COMSEC maintenance publications controlled under the USAF Communications Security Publications Policy Directive. Procedures for the use of the AFTO Form 22 for these specialized publications are included in AFTO Form 22.

5-1.2 Recommended changes can recommend a specific TO improvement, correction of an error, or correction of an omission of a technical nature which prevents the adequate performance of the functions required for mission accomplishment. A "Correction" fixes a minor error or omission in the TO, as defined in paragraph 5-2.1. An "Improvement" is an addition or significant change to a process or procedure which allows a function to be done better/safer/faster/cheaper. Approved "Improvement-type" recommended changes can be submitted as confirmatory IDEAs (see paragraph 5-10).

NOTE

If the recommended change is essential for the safe and effective performance of TO procedures, it will be submitted and evaluated as an "Improvement."
Examples: Incorrect torque values which could damage equipment or cause mission failure, incorrect part numbers which could cause failure of end items.

5-1.3 Replies to recommended changes are for information only. Official TO updates are the only valid authority for correcting a technical deficiency and implementing changes. An approved AFTO Form 22 does not replace the existing tech data in the TO.

5-2 POLICY.

5-2.1 Minor corrections, including LEP errors, may be submitted by JCALS or AFTO Form 22. The following types of deficiencies will be marked as "CORRECTION" types in the "Deficiency" block of the JCALS screen or in block 7 of the AFTO Form 22:

- (1) Merely call attention to a word omission or typographical or printing errors that would normally be corrected during scheduled reviews and do not cause misinterpretation;
- (2) Identify other non-technical errors in a TO, and/or
- (3) Suggest minor word changes or corrections to technical data which clarify or expand existing instructions, but are not essential for the adequate performance of the functions required for mission accomplishment, unless the suggestor specifically describes the problems which will be prevented and/or gives examples of prior problems.

5-2.2 Minor corrections such as those listed above may be deferred (paragraph 5-7.5.4) for TOs published in paper until the affected TO pages are changed for other reasons. Reviewers will forward these discrepancies to the TCM for eventual correction in the affected TO.

5-2.3 All recommended changes except emergency recommendations will be forwarded to a designated command control point (CCP, paragraph 5-3) for review and approval in order to eliminate duplicate recommendations and to ensure all recommendations are valid, properly worded and completed, and assigned correct priorities.

5-2.4 TO Indexes. TOs are indexed by the TO Manager when they are sent to publishing. See TO 00-5-2, chapter 2, for submitting recommended changes to indexes.

5-2.5 Work Unit Codes. Recommendations on WUC (-06) Manuals requesting new code assignments will normally be limited to repairable items. Codes may be requested for non repairable items with proper justification.

5-2.6 Joint-Use TMs. JCALS will allow submitting proposed TM changes directly to the responsible proponent TM manager, but AF policy requires approval of the assigned AF manager prior to submittal. AFTO Forms 22 may be submitted on joint-use technical manuals, using the assigned Air Force TO number, to the appropriate TO Manager (listed in the TO index) for resolution. Proposed updates to non-TO-numbered Army manuals will be submitted on DA Form 2028 according to DA Pamphlet 25-30 (URL <http://www.usapa.army.mil> or CD-ROM), to the proponent (activity) listed as OPR in the pamphlet. Proposed updates to non-TO-numbered NAVAIR manuals will be submitted according to NAVAIR 00-25-100, NAVAIR Technical Manual Program. For procedures on updating other Navy, Marine Corps, or DLA non-TO-numbered manuals, contact the service directly.

5-2.7 AFTO Forms 22 Generated by Foreign Users of USAF TOs. Units operating under the control of foreign governments submit AFTO Forms 22 through their TODO. The TODO ensures inputs have been prepared properly and legibly and provides the TODO identification in block 1.

5-2.8 Since each recommended one improvement per JCALS screen or AFTO Form 22 will be recommended. Exceptions are as follows:

5-2.8.1 When the same change must be made in multiple TOs managed by the same SM, a JCALS recommended change must be completed for each TO. However, when using AFTO Forms 22, one form will be written against one of the TOs, and the other TO numbers will be listed with the affected page and paragraph numbers in block 19. (See paragraph 5-2.9 for AFTO Form 22 procedures when TOs are managed at different SMs.) If the recommended change is approved, the TCM will complete a JCALS "Recommend a TM Change" screen for each affected TO. Individual AFTO Forms 22 are not required. The JCALS system will provide a status report of all pending changes by TO.

5-2.8.2 If the same error occurs more than once in a TO, all locations will be identified on the same AFTO Form 22. Corrections submitted against inspection (-6) TOs may identify all locations where the corrections are needed, including associated workcards (-6WC), and vice versa. Forms submitted on calibration TOs (Category 33K) shall identify multiple corrections in any one TO. All recommended changes submitted on a TO procedure shall contain all known related corrections to that procedure. Individual JCALS recommended changes must be completed for each area requiring the correction. All recommended changes submitted on a single TO procedure shall contain all known related corrections to that procedure.

5-2.9 When a recommended change affects more than one TO and the TOs are managed at different SMs, AND approval or disapproval actions between TOs must be consistent, the submitter will initiate a recommended change for each affected TO and, using the improvement report numbers, cross-reference each recommendation to all others submitted for the same problem.

5-2.10 New Types of TOs. Recommendations for TOs to be prepared to new specifications and included in the TO system will be submitted according to paragraph 2-5.1. This does not apply to commercial-format manuals purchased under acquisition reform guidelines and included in the TO system.

5-2.11 Embedded Computer System Hardware/Software Problems. Hardware problems and software deficiencies will be submitted IAW TO 00-35D-54.

5-2.12 Calibration Responsibility Determinations (AFTO Form 45). Organizations requiring such determinations will submit recommendations IAW TO 33K-1-100.

5-2.13 Flight Manual Program (FMP) Publications. Recommended improvements to FMP publications are submitted by AF Form 847, as prescribed in AFI 11-215.

5-2.14 Acquisition and PTOs. The special routing of recommended changes on TOs and PTOs during the acquisition phase of a military system or commodity is covered in TO 00-5-3.

5-2.15 Source, Maintenance, and Recoverability (SMR) Code Changes. Use a recommended change to request a new SMR code where none was previously assigned (e.g., for commercial equipment) IAW TOs 00-20-3 and 00-25-195. Requests for SMR code changes are submitted using AFTO Form 135, SOURCE MAINTENANCE AND RECOVERABILITY CODE CHANGE REQUEST, IAW TO 00-25-195.

5-2.16 Support Equipment Requirements. Recommended changes may be submitted to update the equipment requirements in support and test equipment tables ONLY when substitutions are NOT authorized in the table or elsewhere in the TO.

5-2.17 Contractor Data. Discrepancies discovered in contractor data shall be submitted by letter through the MAJCOM headquarters to the SM. After review, the SM will forward letters to the contractor. The letter should identify the contractor data that is in error, equipment it supports, proposed fix (if known), submitting organization, individual who discovered the error, and a phone number where the submitter can be contacted. There is no structured reply system for these recommendations due to the unique nature of each CLS/CS contract.

5-2.18 Classified Recommendations. Marking, shipping, and handling of classified recommended changes will be in accordance with the instructions prescribed in DoD 2500.1-R/AFI 31-401. Recommendations containing classified data will be marked with the security classification of the page for which the recommendation is being submitted. Classification authority and downgrading instructions will be entered in block 19. Unclassified recommendations on classified TOs will be identified as such. Security violations involving TOs will be reported according to DoD 5200.1-R/AFI 31-401.

5-3 RESPONSIBILITIES.

5-3.1 Reviewing Activities. A reviewing activity is any office between the originator and the final evaluator assigned this responsibility. Prior to submittal, the recommended change will be assessed in terms of mission impact, personnel and aero space system safety, damage to equipment, work simplification, urgency of need for change, and manpower savings. Reviewers will ensure recommended changes are assigned the proper category and downgraded or disapproved when appropriate. Once the submitting MAJCOM has approved a recommendation category, it will not be changed without their consent. Adequate controls will be established to ensure only one recommendation is submitted from a reviewing organization on the same improvement. One copy of each recommendation will be returned to the initiating activity showing action taken.

5-3.2 Base Level. The supervisor of the person submitting a recommended change will ensure the recommendation is valid and warrants submittal. All copies of recommendations determined valid will be forwarded to the local Product Improvement (PI), Stan Eval, or other responsible organization for review and approval. The reviewing activity will forward approved recommendations to the CCP.

5-3.3 Command Control Points (CCP).Initiating command CCPs will review AFTO Forms 22 and other recommended change forms submitted by their units to ensure adherence to command policies and procedures. When required, copies will be coordinated with other affected MAJCOMS or functional agencies (see paragraph 5-5). A command headquarters may serve as the single control point or may delegate the responsibility to another command activity. Within the command, separate single points may be established by functional area or military system. (supplement required)

5-3.3.1 Initiating MAJCOM CCPs will check either "Approved" or "Disapproved" (in block 2), and forward approved recommendations to the Lead Command for the system or commodity affected by the AFTO Form 22. Lead Commands have the option to omit this step in the coordination process, but must notify affected SM organizations that Lead Command coordination is not required for their system.

NOTE

If the initiating command is the Lead Command, they will leave block 2 blank and complete block 3 only.

5-3.3.2 Lead Command CCPs will check either "Approved" or "Disapproved" (in block 3) and forward approved recommendations to the applicable TO Manager within 30 calendar days from the date in the Date Submitted block.

5-3.3.3 Disapproved recommendations will be returned to the reporting organizations. Information copy requirements are stated in paragraph 5-5.

5-3.4 Evaluators. As opposed to the reviewer, the evaluator is the one technically responsible for the contents of the TO. The evaluator will determine if the recommended change is a correction or improvement and the submitted data is correct. Recommended changes and any back-up materiel must be retained by the TCM for two years after disapproval or update incorporation, according to AFMAN 37-139.

5-4 RECOMMENDATION CATEGORIES.

5-4.1 Emergency Recommendations. These require immediate action on a TO deficiency which, if not corrected, WOULD result in a fatality or serious injury to personnel, extensive damage or destruction of equipment or property, or inability to achieve or maintain operational posture (MISSION ESSENTIAL), including field-level work stoppage.

5-4.1.1 Action copies of emergency recommendations will be transmitted electronically by "Normal" DMS or priority e-mail, IMMEDIATE message or facsimile (FAX) to the organization having management responsibility for the TO (table 5-1) with an information copy to the designated CCPs. Requirements for other information copies are specified in paragraph 5-5. Use the same message precedence for the information addressees only if they require the message with the same urgency.

5-4.1.2 The message subject will be "EMERGENCY AFTO Form 22," and they will contain applicable information required by blocks 5 through 22. A copy of the form itself will be attached to e-mail or sent when using FAX. E-mail transmissions should require a receipt notification. Submitters must confirm receipt of Faxes by telephone to the TO Manager.

5-4.1.3 Replies to Emergency Recommendations. The responsible TCM will either issue an ITCTO (TO 00-5-15) or RAC (chapter 4) within 48 hours (72 hours for work stoppage) after receipt of the AFTO Form 22/ message, or will disapprove or downgrade the recommendation within the same time frame. When a recommendation is disapproved or downgraded, an e-mail/message referencing the improvement report number and giving the reason will be transmitted to the originating Product Improvement Manager (PIM) or other responsible organization, CCP, and all information addresses on the original recommendation. As a minimum, downgrading messages will include the new category, current status, and anticipated resolution date. Emergency recommendations can only be downgraded with the concurrence of the CCP. When responding to a message the TCM will initiate an AFTO Form 22 for approved recommendations, document the action taken, complete the IDEA information in blocks 20/21, and return it to the initiator.

5-4.2 Urgent Recommendations. These require action on a TO deficiency which, if not corrected, COULD cause one or more of the following: personnel injury; damage to equipment or property; and/or reduce operational efficiency; OR could jeopardize the safety or success of mission accomplishment OR could result in over \$5,000 or 250 man-hours annual savings to the Air Force. All TCTO deficiencies are submitted as urgent. Identification of or replacements for EPA hazardous materials (HAZMAT) and ozone depleting substances (ODS) are submitted as urgent.

5-4.2.1 Replies to Urgent Recommendations. The responsible TCM, in coordination with the TO management office, will publish and distribute a TO update (BCU or RAC) within 40 calendar days after receipt of the recommended change at the ALC (using activities must allow for mail and TODO redistribution time). An AFTO Form 22 reply must be made when the recommendation is disapproved or downgraded, action cannot be completed within 40 calendar days, or the recommendation is approved. In the case of disapproval or delay, a response justifying the action or explaining the delay will be made within 15 calendar days. Urgent recommendations can only be downgraded with the concurrence of the CCP. For approved recommendations, the AFTO Form 22 response must be completed within the 40 days to provide IDEA values and avoid having to complete a separate IDEA evaluation package. Copies of the response will be sent to the activities in blocks 1, 2 and 3 of the AFTO Form 22.

5-4.3 Routine Recommendations. These require action on TO deficiencies which do not fall into emergency or urgent categories.

5-4.3.1 Replies to Routine Recommendations. The TCM will use the AFTO Form 22 to respond to all routine recommendations within 45 calendar days after receipt at the ALC, except as specified in paragraphs 5-7.5.1., .2, and .4, advising of action taken, the reason when disapproved or modified, and when applicable, IDEA value. Copies of the response will be sent to the activities in blocks 1, 2 and 3 of the AFTO Form 22.

5-4.3.2 Routine changes to a TO will be consolidated into BCUs and published (including printing and distribution) within 365 calendar days after the responsible TCM receives the first recommendation affecting the existing version of the TO, except as specified in paragraph 5-7.5.1, .2, and .4 advising. Using activities must allow for mail and TODO redistribution time.

5-5 AFTO FORM 22 SPECIAL COORDINATION AND INFORMATION COPY REQUIREMENTS.

All action addresses are listed in table 5-1.

5-5.1 **Nuclear Weapons TOs.** Proposed changes and corrections to the following categories of nuclear weapons TOs require coordination as indicated: 11N and 60N JNWPS manuals listed in TO 0-1-11N for Air Force use; and Category 1 Nuclear Weapons TOs (types -16, -25, and -30) and Category 11N Air-Launched Missile Warhead Mate/Demate TOs listed in TO 0-1-11N-C. Emergency recommendation messages will be sent directly to AAC/WNLD. Information copies of recommendations approved by the initiating CCP will be sent to the CCPs of all other affected MAJCOMs concurrently with the action copy forwarded to WNLD. (For JNWPS "unsatisfactory reports," see TO 11N-5-1).

5-5.1.1 CCPs receiving copies of AFTO Forms 22 on 11N or 60N TOs must submit an evaluation and/or comments to AAC/WNLD within 8 hours on emergency recommendations, 24 hours on urgent recommendations and within 10 calendar days on routine recommendations. This coordination will be reflected on the AFTO Form 22 copy or by transmittal letter/message. Transmittal letters will include the affected TO number and the applicable improvement report number.

5-5.2 **412A System (Life Support, Egress and Survival Equipment) Related TOs.** WR-ALC/LKCB is the TO Manager for TOs covering these subjects. Information copies of recommendations approved by the initiator's CCP will be sent to the CCPs of all other affected MAJCOMs concurrently with the action copy forwarded to WR-ALC/LKCB.

5-5.2.1 CCPs receiving copies of AFTO Forms 22 on these types of equipment must submit evaluation and/or comments to WR-ALC/LKCB within 8 hours for emergency recommendations, 24 hours on urgent recommendations and 10 calendar days on routine recommendations. The coordination will be reflected on the AFTO Form 22 copy or by transmittal letter. Transmittal letters will include the affected TO number and the applicable improvement report number.

5-5.3 **Disaster Preparedness (DP) Coordination.** All recommendations for improvements to the existing TO system affecting DP (including chemical warfare defense equipment and operations), whether proposals for new types of TOs or improvements in existing documents, will be submitted through MAJCOM DP functional managers for review and comment, to the Air Force Civil Engineering Support Agency (AFCESA)/CEXD). CEXD will endorse recommendations before sending them to the appropriate ALC.

5-5.4 **Munitions General Policy and Procedures TOs.** Originating commands will obtain approval from all affected MAJCOMs prior to submission of any improvement recommendations to OO-ALC/TIEDT. Recommended changes will be provided to MAJCOM munitions managers by message using the munitions Mail List (ML).

5-5.5 **Aerospace Ground Support Equipment (AGSE) General Maintenance TOs and Servicing/Periodic Inspection Workcards.** Changes to TOs 1-1A-15, 35-1-3 and all powered and non powered AGSE inspection workcards require approval of the AGSE Working Group (AGSEWG). The originating MAJCOM will obtain approval of these proposed changes from all other affected MAJCOMs, prior to submission to the responsible ALC. Recommended changes will be provided to the AGSEWG (MAJCOM AGSE managers) by message using the AGSEWG Mail List. AGSEWG members will provide their concurrence or nonconcurrence by message within 15 calendar days of the originating command message. Non response within the allotted time will be considered approval. Approval to change the subject TOs and submission to the responsible ALC will be based on the majority of AGSEWG responses. Changes to subject TOs submitted directly to an ALC without prior AGSEWG coordination and approval will be disapproved.

5-5.6 **Corrosion Control Manuals.** TO Managers will send information copies of all recommendations on military system corrosion control manuals to the AF Corrosion Control Office, AFRL/MLS-OLR at Robins AFB GA.

5-5.7 **Nondestructive Inspection (NDI) Manuals.** TO Managers will send information copies of all recommendations on NDI manuals to the AF NDI Office, AFRL/MLS-OL at Tinker AFB OK.

5-6 AFTO FORM 22 COMPLETION.

The AFTO Form 22 must be completed digitally and submitted via e-mail or floppy disk, using either the Form Flow or Word versions of the form (see the TO System Information page, <http://www.pdsm.wpafb.af.mil/toprac/to-syste.htm>, for the latest versions of the form). Paper copies will not be accepted without prior coordination and approval of the TO Manager.

NOTE

Procedures for completion of the JCALS "Recommend a TM Change" screen are provided in the JCALS Desktop Instructions (JDI), available from http://www.pdsm.wpafb.af.mil/toprac/jcals_di.htm.

5-6.1 Signatures. Initiators should retain a printed, signed and dated copy of the form for record and IDEA program purposes. Signatures are NOT required in order to evaluate and complete e-mailed AFTO Forms 22 – the e-mail address record is sufficient proof of identity. Form transmitted on disk will be accompanied by a printed and signed copy of the form. Reviewer signatures will be entered in the form address blocks.

5-6.2 Dates. The "Date Submitted" will be entered by the PIM or equivalent entity submitting the form for the initiator. The "Date Received" will be entered by the TO management organization. The forms will be completed as follows:

5-6.3 PART I, ROUTING, Blocks 1 – 4: Route all recommended changes through the parent MAJCOM CCP and (if required) the Lead Command CCP (paragraph 5-3.3). TO recommended changes on the TOs/subject matters listed in paragraph 5-5, along with EOD and Aircraft Emergency Rescue TOs/data, require special routing -- see table 5-1, part I. If special routing does not apply, address action copies of emergency recommendations and block 4 of other recommendations to the TO Management Office shown in the TO Catalog. If unable to determine the TO Manager, send recommendations to the appropriate ALC listed in table 5-1, part II.

5-6.3.1 Enter complete 3/4 line addresses with 9-digit ZIP codes, and include the office or individual reviewer e-mail addresses.

5-6.3.2 Enter the submitting organization PIM or equivalent reviewing/approving activity in block 1. For Government submitters, parent MAJCOM CCPs (block 2) are identified in MAJCOM supplements to this TO. Lead Command CCPs (block 3) will either be listed in the same place, or will be entered by the initiating MAJCOM. TM Management Office addresses (block 4) are listed in the TO Catalog.

5-6.3.3 Contractors will enter their Quality Assurance or equivalent function in block 1. When contract schedules or costs are affected, route the recommendation through the ACO/PCO (block 2). All contractor reports must be routed through the assigned Lead Command unless specifically exempted.

5-6.4 PART II, CONTROL INFORMATION.

5-6.4.1 Block 5, LOCAL CONTROL NUMBER. Local control numbers may be entered by the PIM or other local activity monitoring AFTO Form 22 submissions. Develop local control numbers as follows:

- **1st Position:** Most recommended changes will use a "2" in this position. Change recommendation generated by TO Managers and TCMs will use a "5."
- **2nd and 3rd Positions:** Enter the parent MAJCOM or FOA code as follows:

US Air Force Academy (USAF)	0B
US Air Forces in Europe (USAFE)	0D
AF Accounting and Finance Center	0E
Air Reserve Personnel Center (ARPC)	0I
Air Education and Training Command (AETC)	0J
Air University (AU)	0K
Air Force Reserve Command (AFRC)	0M
Headquarters USAF	0N
Standard Systems Center (SSC)	0O
Pacific Air Force (PACAF)	0R
Air Intelligence Agency (AIA)	0U

AF Special Operations Command (AFSOC)	0V
AF Communications Agency (AFCA)	0Y
AF Manpower Invovation Agency (AFMIA)	01
AF Safety Center (AFSC)	02
AF Audit Agency (AFAA)	06
AF Office of Special Investigations (AFOSI)	07
AF Manpower and Personnel Center (AFMPC)	09
Air Combat Command (ACC)	1C
Air Mobility Command (AMC)	1L
Air Force Materiel Command (AFMC)	1M
AF Space Command (AFSPC)	1S
AF Engineering and Service Center (AFESC)	1W
AF Technical Application Center (AFTAC)	2L
AF Element - US Strategic Command (AFELM - USSTRATCOM)	3Q
AF Element - US Readiness Command (AFELM - USREDCOM)	3R
US Government, non DOD	4C
Contractors	4N
Air National Guard (ANG)	4Z
Military Assistance Program Countries (includes Security Assistance Programs, Foreign Military Sales, etc.)	40
Joint Communications Support Element	41
US Army	81
US Coast Guard	83
US Marine Corps	84
US Navy	85

- **4th through 10th Positions:** Organizations with numeric designations will enter the numeric designation of the unit in position 4 - 7 (precede the number with zeros if less than four digits), and enter the type of unit (BWG, CMS, etc.) in positions 8 - 10 (this may or may not be the same as the PIM unit shown in block 1). Organizations with letter designations will enter the organization and office address, e.g., OCLAPPA for the OC-ALC C-135/E-3 section, or 0HQENBP for the HQ AFMC TO Policy office (AFMC is indicated by the "1M" in positions 2 and 3). Contractors will enter the commercial and government entity (CAGE) code number from H4/H8 cataloging handbooks in positions 4 - 8, and use positions 9 - 10 for internal identification or enter zeros.
- **11th Position:** Enter the last digit of the current calendar year.
- **12th through 14th Positions:** Each reporting organization will number recommendations sequentially through the calendar year, starting with 001 in January. If there are more than 999 reports in a year, use A01, etc.

5-6.4.2 **Block 6, PRIORITY.** Check the appropriate box, Emergency, Urgent, or Routine (see paragraph 5-4 and subs).

5-6.4.3 **Block 7, TYPE OF CHANGE.** Check either "CORRECTION" or "IMPROVEMENT" based on the nature of the recommendation being submitted (See paragraph 5-1.2). Subsequent reviewers and evaluators will verify this entry and change it if justified. The reason for making any change will be documented in block 27, Disposition/Remarks.

5-6.4.4 **Block 8, INITIATOR.** Enter the initiator name, rank, DSN and e-mail address.

5-6.4.5 **Block 9, INITIATOR'S SUPERVISOR.** The initiator's supervisor or, for operations manuals (-1 series), the Stand Eval officer will enter their name, office symbol and DSN in this block. For all TOs and technical data applicable to weapons/munitions loading, the Weapons Standardization Section Superintendent, Loading Standardization Crew (LSC), or Wing Weapons Manager will enter their data in this block. When the initiator is the MAJCOM reviewing authority, enter "N/A" and complete block 2 (Approved/Disapproved).

5-6.5 PART III, PUBLICATION (TO) INFORMATION.

5-6.5.1 Block 10, PUBLICATION NUMBER. Enter the complete TO or supplement number as it appears on the title page. Include parentheses, slashes and dashes but NO blank spaces within the number. Use capital letters.

5-6.5.2 Block 11, BASIC DATE. Enter the TO basic date (lower right-hand corner of the title page).

5-6.5.3 Blocks 12 and 13, CHANGE No. and CHANGE DATE. Enter the latest change number and change date, not the change number (if any) on the page containing the deficiency.

5-6.5.4 Block 14, WORK PACKAGE / WORK CARD ID. For work package TO recommendations, identify the work package number. For work cards, enter the routine and card number instead of a page number.

5-6.5.5 Blocks 15 through 17, PAGE No. PARAGRAPH No. and FIGURE / TABLE No. For block 15, enter only the first page if multiple pages are affected, and explain in block 19. For block 16, enter the number of the paragraph to be changed, or which precedes added material, or the System/Subsystem/Subject Numbers (S/S/SN) for manuals using this system. For block 17, enter "Table" before the number when applicable.

5-6.5.6 Block 18, SHORT DESCRIPTION OF DEFICIENCY. Enter a brief (up to 200 alpha-numeric characters) description of the deficiency. JCALS uses this field for "key word" searches to assist with identifying duplicate entries and for data retrieval.

5-6.6 PART IV, DEFICIENCY. Complete block 19 as follows:

5-6.6.1 Identify the military system when this is not included in the TO number. If not a system, identify commodities by MDS or TMS and NSN or part number. Omit for general and MPTOs.

5-6.6.2 Enter a complete description of the TO deficiency or enhancement, and justification for the recommendation. When appropriate, indicate or attach the source documents for changes in voltage, part numbers and so forth.

5-6.7 PART V, RECOMMENDED TM CHANGE. Complete block 20 as follows:

5-6.7.1 Word the recommended change as closely as possible to the exact language which should appear in the corrected TO. If the wording is not known, that is, the correction will require engineering research or extensive verification, specify the type of correction (e.g., "Add more in-depth fault isolation procedures.") and/or state "Unable to develop at field level."

5-6.7.2 Attach additional files if needed, showing the local control number in the upper right hand corner of each sheet.

5-6.7.3 If the initiator believes implementation would result in tangible savings, then they must attach an estimate of the amount of the savings with justification to the AFTO Form 22, along with any backup material. (Paper backup material may either be scanned into an electronic file, or be described in the AFTO Form 22 and provided upon request via post mail.) Reviewers and evaluators at all levels must review this estimate and add their concurrence or revised values as appropriate.

5-6.7.4 The initiator must provide a brief description of expected intangible benefits for AFTO Form 22 recommendations without tangible benefits.

5-6.7.5 Blocks 21 and 22. The initiator will enter the estimated annual saving in dollars and man-hours resulting from the TO change recommendation, or leave the blocks blank if no savings are anticipated. Each subsequent reviewer/evaluator is authorized to change these two blocks.

5-6.8 Reviewer Procedures. The PIM or equivalent reviewer and the MAJCOM/Lead Command CCPs will check either "Approved" or "Disapproved" in the appropriate address blocks (1, 2 or 3). Return disapproved forms to the submitter (block 1) and forward approved forms to the next reviewer.

5-6.8.1 Comments by the PIM or CCPs shall be identified as such as included in block 19 or in the "Continuation" block. When the CCP deems that expedited action is essential for a routine report, a request for expeditious processing with rationale may be entered. PIM and MAJCOM reviewers who disapprove (or recommend disapproval) of an AFTO Form 22 for any reason will document the action and reasons in the Continuation block (Part VII).

5-6.8.2 If reviewers and evaluators disagree with initiator recommendations for the “Savings” (blocks 21 and 22) or the “Intangible” vs “Tangible” IDEA benefits, they must provide written justification for changing them in the continuation block or an attachment to the form. The justification must include why tangible benefits could not be assigned, and what areas will be affected by the intangible benefits (safety, security, work flow, etc.)

5-6.8.3 Reports received by ALC evaluators without having been routed through MAJCOM and Lead Command CCP channels (unless exempted by the Lead Command) will be returned to the reporting organization without action or entry into JCALS. A statement to this effect will be entered in block 19 of each report returned without action.

5-7 EVALUATOR PROCEDURES

5-7.1 PART VI, EVALUATOR / DISPOSITION.

5-7.1.1 Evaluators will enter the date the recommendation was received (top of page one), and enter information from the form into the mandatory fields of the JCALS “Recommend a TM Change” screen.

5-7.1.2 Mandatory JCALS fields are the “Local Control Number,” the “Pub Number,” at least two of location fields (Page No., Paragraph No., Figure No., Table No., etc.) for identifying the deficiency in the TO, the “Short Description of Deficiency,” and the “Deficiency.” Other fields are optional, and can be handled by referring to the AFTO Form 22 and importing the form into the JCALS TM Change workfolder.

5-7.2 Block 23. Enter the date the reply is completed.

5-7.3 Block 24, EVALUATOR. Enter the evaluator (TCM) name, rank, DSN and e-mail address.

5-7.4 Block 25, EVALUATOR'S SUPERVISOR. The first-level supervisor of the individual in block 24 will enter his name, office symbol and DSN in this block for “APPROVED”, “DUPLICATE”, or initial 60-day “ADVISEMENT” actions. This authority may be delegated to the TCM for the applicable TO. If the initial Advisement period is known to require more than 60 calendar days, the second-level supervisor may approve a period of up to six months, with any subsequent extensions approved at the same level. All other actions will be approved by no-lower-than the first-level supervisor with progressively higher approval levels (not to exceed division) for any subsequent rebuttals or extensions.

5-7.5 Block 26, DISPOSITION. Check the appropriate action taken. Definitions are as follows:

5-7.5.1 Abeyance. Evaluation delayed for management reasons. Used for routine recommendations when existing factors preclude processing of the AFTO Form 22 submitted within the normal processing time frame. These factors include recommendations affecting TOs on obsolete systems and equipment or TOs controlled by all-MAJCOM committees such as the Air Force CTOM. Recommendations from foreign countries under the SAP will not be placed in abeyance. The specific reason and expected resolution date will be entered in Disposition/Remarks (block 27) and the form will be e-mailed back to the activities in blocks 1, 2 and 3 of the recommendation.

5-7.5.2 Advisement. Engineering study required before evaluation can be completed. Evaluation time will extend beyond normal time limits. The Expected resolution date will be entered in Disposition/Remarks (block 27) and the form will be e-mailed back to the activities in blocks 1, 2 and 3 of the recommendation.

5-7.5.3 Approved. The intent of the recommendation will be included in the TO.

5-7.5.4 Deferred. The recommendation is approved but limiting factors prevent publication within 365 calendar days OR the changes are minor and will be incorporated when the affected pages are updated for other reasons. The resolution date for the limiting factors and reasons for the delay will be entered in the Disposition/Remarks section, and the form will be returned to the organizations in blocks 1, 2 and 3. Deferred status items will be published when limiting factors no longer exist. Minor changes will be incorporated if the applicable page(s) of the TO are updated for other reasons, such as a modification, new acquisitions etc., or at the next TO revision.

5-7.5.5 Disapproved. The reason for disapproval will be explained in the Disposition/Remarks section.

5-7.5.6 Duplicate. Use when the same recommendation was submitted earlier, whether approved or disapproved, and no matter the source of the previous submittal. When applicable, the AFTO Form 22, IDEA, or JCALS control number will be entered in the Disposition/Remarks section. “Duplicate” may NOT be used when the current report is a rebuttal of a previous disapproval.

5-7.6 Block 27, REMARKS. Explain all dispositions except for Abeyance or Approval as written, which require no comments. Enter the justification for downgrading the report urgency or changing the Type of Change (block 7) or values entered in blocks 21 and 22. Include reasons for any modifications to the recommended change wording and for considering this report a "Duplicate" (if applicable). On approved and deferred "Improvement" -type forms, include justification for recommended IDEA benefits, whether Tangible or Intangible (block 28), or for changing the calculations for the amount of tangible benefits. This is not required on Correction-type forms.

5-7.7 Block 28, IDEA BENEFITS ARE. Leave blank for Correction-type forms. When an Improvement-type AFTO Form 22 has been approved, indicate whether IDEA benefits would be "Tangible" or "Intangible." For tangible benefits, enter the value here.

NOTE

Failure to properly complete block 28 of the AFTO Form 22 could result in submission of a separate AF Form 1000, IDEA Application, and AF Form 1000-1, IDEA Evaluation and Transmittal package for evaluation.

5-7.8 PART VII, CONTINUATION (BLOCK No.). Used for added information which would not fit in other blocks.

5-8 STATUS INFORMATION TO INITIATING COMMANDS.

NOTE

The TO Recommended Change Status List is on the World Wide Web, accessed through the TO System Information Page (paragraph 1-1.2). Entries are listed by Command Code (paragraph 5-6.4.1). All reviewers and TODOs should obtain access to the WWW to review the list.

The "current status," "scheduled dates for action" and "date TOs were distributed" for approved reports in work or closed since the last reporting period are shown in the TO Recommended Change Status List (figure 5-2). Status for 33K TOs will be furnished by AFMETCAL Det 1/ML in format similar to the TO Recommended Change Status List. Det 63, AAC/CC will provide the same information for Joint Services Category 60 nonnuclear EOD TOs at the request of initiating commands. The status conditions are:

- Abeyance, Advisement, Approved, Deferred, Disapproved, and Duplicate -- see paragraph 5-7.5 and subs.
- Saved – Indicates the TO Manager has initiated work on the RC, but is awaiting further information before submitting it to the evaluator (TCM).
- Active – When the RC has been submitted to the TCM for evaluation.
- Interim Reply – Interim status has been provided to the initiator.
- Validated – Optional selection for the TO Manager or TCM, depending on the extent of the change and if a contractor developed the procedures.
- Verified – Optional selection for the TO Manager or TCM depending on whether the change required verification.

5-9 FOLLOW-UP ACTION.

5-9.1 Follow-ups may be initiated in writing or over the telephone. Telephone follow-ups will only be initiated by the PIM or by the MAJCOM OPR.

5-9.2 Follow-up action will not be taken unless a reply or action has not been received within 60 hours after submitting an emergency recommendation; 60 calendar days for an urgent or priority recommendation; or 90 calendar days for a routine recommendation. Follow-ups may be made on routine recommendations which have been in "Being Evaluated" status in excess of 45 days. Follow-ups will not be made unless the TO Recommended Change listing has not been updated or the scheduled date for action shown on the listing has passed without the action having been taken. Such follow-ups will be submitted through command channels.

5-9.3 When disapproval of an AFTO Form 22 or change to the AFTO 22 Type (block 7) is considered unacceptable, the initiator may submit it for reconsideration. The initiator resubmits using a new local control number, referencing the old local control number and giving rationale for the resubmission.

5-10 AFTO FORMS 22 AND THE INNOVATIVE DEVELOPMENT THROUGH EMPLOYEE AWARENESS (IDEA) PROGRAM.

NOTE

- TO Managers and TCMs are not eligible for monetary IDEA awards on changes they develop for their own TOs (job responsibility).
- The below policies also apply to JCALS recommended changes. A copy of the approved "Recommend a TM Change" screen will be provided in lieu of the approved AFTO Form 22. The recommended change must have the type (Correction or Improvement) and the IDEA category (Intangible or Tangible, and monetary savings for Tangible) annotated in either the "Deficiency" or "Disposition/Remarks" blocks.

5-10.1 An approved AFTO Form 22 will qualify as a IDEA under AFD 38-4, AFI 38-401, and AFHDBK 38-402 covering the IDEA program. **EXCEPTION:** Multiple AFTO Forms 22 submitted to correct a single problem will be treated as one IDEA for award purposes. The recommended change evaluator **MUST** complete block 28 (tangible or intangible and dollar value of tangible savings), and add justification for either the dollar value of tangible savings or the reasons for selecting intangible and the areas affected by intangible savings, for all approved IMPROVEMENT-type AFTO Forms 22. This is not required for CORRECTION-type AFTO Forms 22.

5-10.1.1 The recommended change initiator will **NOT** submit a IDEA with the AFTO Form 22. Block 1 and 12 of the AFTO Form 22 (Report Date and Reported BY) establish ownership of any confirmatory IDEA.

5-10.1.2 Processing time limits and follow-up procedures for the appropriate AFTO Form 22 urgency level apply.

5-10.2 Confirmatory IDEAs. The initiator of an approved Improvement-type (block 7) AFTO Form 22 may submit a confirmatory IDEA to the base level IDEA Analyst. Correction-type AFTO Forms 22 are not eligible for submission to the IDEA Program. The AF Form 1000 or IPDS input must be submitted within 30 days of the date of notification of AFTO Form 22 approval. A copy of the AFTO Form 22 must be attached to the AF Form 1000, or for IPDS submittals, to a manual package which must be created. Initiators may request a waiver from the IDEA Analyst when the time limit cannot be met.

5-10.2.1 The IDEA Analyst will accept the IDEA and base the award on the AFTO Form 22 approval and IDEA benefit data provided by the TCM. The IDEA Program requires backup documentation for tangible benefits, such as the Unit Manpower Document when a position will be deleted or supply records showing the reduction in parts ordering. No TO system documentation other than the AFTO Form 22 is required.

5-10.2.2 If IDEA benefits were not indicated on the AFTO Form 22, the AFTO Form 22 must be re-routed to the Evaluator (block 24) for addition of the required data before it can be submitted for IDEA award. IDEAS cannot be used to dispute a disapproved AFTO Form 22.

5-10.3 Stand-alone IDEA. Initiators may submit a stand-alone IDEA affecting the TO system or multiple TOs, as long as it meets the criteria of paragraph 5-2. Stand-alone IDEAs affecting a specific TO will be disapproved and returned to the initiator for submission of an AFTO Form 22 or other appropriate TO System recommended change. The IDEA may be resubmitted as confirmatory after approval of the AFTO Form 22.

5-10.3.1 IDEA program rules and time limits apply to stand-alone submittals. Approval and disapproval procedures in AFI 38-401 will be followed.

5-10.3.2 If the approval of such an IDEA results in the need to update TO(s), the responsible TCM will provide a copy of the JCALS "Recommend a TM Change" screen prepared to implement the IDEA as part of the IDEA package response. In this case, no AFTO Form 22 is required, but an AF Form 1000-1 is.

Table 5-1. AFTO Form 22 Routing Addresses

I. Specialized TO Manager Mail and Message Addresses.**A. Nuclear Munitions Maintenance and Loading Manuals, all Category 11N and 60N Manuals listed in TO 0-1-11N for Air Force Use; Category 1 Nuclear Weapons TOs (type -16, -25, and -30) and all Category 11N Manuals listed in the TO 0-1-11N-C supplement**

Mail: AAC/WNLD
1651 First St S.E.
Kirtland AFB NM 87117-5617
DSN - Fax 246-0238 Voice: 246-3981

B. Category 60 EOD Manuals excluding Category 60N Manuals

Mail: Detachment 63, AAC/CC
2008 Stumpneck Rd
Indian Head MD 20640-5099
DSN - Fax 354-4027 Voice: 354-6824

C. TO 00-105E-9 Aircraft Emergency Rescue Information

Mail: AFCESA/CEXF
139 Barnes Dr Ste 1
Tyndall AFB FL 32403-5319
DSN - Fax 523-6383 Voice: 523-6150

D. Disaster Preparedness Related Improvement

Mail: AFCESA/CEXD
139 Barnes Dr. Ste 1
Tyndall AFB FL 32403-5319
DSN - Fax 523-6383 Voice: 523-6120

E. Life Support and Egress Systems.

Mail: WR-ALC/LKCB
460 Richard Ray Blvd, Ste 221
Robins AFB GA 31098-1640
DSN - Fax 468-1612 Voice: 468-0899

ALC Code: WR

F. Corrosion Control Manuals

Mail: AFRL/MLS-OLR
325 2nd St, Bldg 165
Robins AFB GA 31098-1639
DSN - Fax 468-6619 Voice: 468-3284

G. Nondestructive Inspection (NDI) Manuals.

Mail: AFRL/MLS-OL
4750 Staff Drive
Tinker AFB OK 73145-3317
DSN - Fax 339-4822 Voice: 339-4931

Table 5-1. AFTO Form 22 Routing Addresses - Continued

II. All Other Recommendations.

A. Submit recommendations to the specific weapon system or commodity TO Manager, listed in the TO Catlog found at <http://www.pdsd.wpafb.af.mil/toprac/to-syste.htm>.

B. If unable to determine the TO Manager, send recommendations to the appropriate TO Home Office listed below.

<u>C. ALC TO Home Office Mail and Message Address</u>		<u>ALC CODE</u>
Mail:	AFMETCAL Det 1/ML 813 Irving-Wick Dr W, Ste 4M Heath OH 43056-6116	AG
DSN - Fax	366-5020 Voice: 366-5174/5173	
Mail:	OC-ALC/TILU 7851 2 nd ST, STE 200 Tinker AFB OK 73145-9147	NU
DSN - Fax	336-5013 Voice: 336-2937	
Mail:	OC-ALC/TILDT 3001 Staff Dr, Ste 1AB100 Tinker AFB OK 73145-3042	OC
DSN - Fax	336-3305 Voice: 336-5100	
Mail:	OO-ALC/TIEDT 6042 Fir Ave (bldg 1236) Hill AFB UT 84056-5820	OO
DSN - Fax	777-7763 Voice: 775-2595	
Mail:	WR-ALC/TILT 420 Second St, STE 100 Robins AFB GA 31098-1640	WR
DSN - Fax	468-6647 Voice: 468-3158	
Mail:	ASC/SYL 1790 10 th St Rm 102.01 WPAFB OH 45433-7630	<i>asc.sy.toma@wpafb.af.mil</i>
DSN - Fax	785-7916 Voice: 785-7885	
Mail:	AAC/WMY 102 West D Ave Ste 300 Eglin AFB FL 32542-6808	
DSN - Fax	872-0657 Voice: 872-9435, x2032	
Mail:	SMC/AXLM 2420 Vela Wy Ste 1467 El Segundo CA 90245-4659	<i>smc.ax.technical.order@losangeles.af.mil</i>
DSN - Fax	833-0450 Voice: 833-6424	

TECHNICAL MANUAL (TM) CHANGE RECOMMENDATION AND REPLY		DATE SUBMITTED	DATE RECEIVED	OMB NO. 0704-0188
Public reporting burden for this collection is estimated to average 5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington DC 20503.				
PART I - ROUTING (Use complete 3-4 line address, including 9 digit zip code and E-Mail address where applicable)				
1. FROM (Product Improvement Manager or equivalent)	2. THRU (Parent MAJCOM CCP)	3. THRU (Lead Command CCP)	4. TO (Tech Manual Management Office)	
(NAME/DSN) <input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED	(NAME/DSN) <input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED	(NAME/DSN) <input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED	(NAME/DSN)	
PART II - CONTROL INFORMATION				
5. LOCAL CONTROL NUMBER (IAW TO 00-5-1)		6. PRIORITY <input type="checkbox"/> EMERGENCY <input type="checkbox"/> URGENT <input type="checkbox"/> ROUTINE <input type="checkbox"/> CORRECTION <input type="checkbox"/> IMPROVEMENT		
8. INITIATOR (Name, Rank, DSN, E-Mail)		9. INITIATOR'S SUPERVISOR (Name, Rank, DSN, E-Mail)		
PART III - PUBLICATION (TM) INFORMATION				
10. PUBLICATION NUMBER	11. BASIC DATE	12. CHANGE NUMBER	13. CHANGE DATE	
14. WORK PACKAGE/WORD CARD ID	15. PAGE NUMBER	16. PARAGRAPH NUMBER	17. FIGURE/TABLE NUMBER	
18. SHORT DESCRIPTION OF DEFICIENCY				
PART IV - DEFICIENCY				
19.				
PART V - RECOMMENDED TM CHANGE				
20.				
21. SAVINGS/YR - DOLLARS				
22. SAVINGS/YR - MANHOURS				
AFTO FORM 22, 20000324 (EF-V1) PREVIOUS EDITION IS OBSOLETE				

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Figure 5-1. AFTO Form 22, Technical Manual (TM) Change Recommendation and Reply (Sheet 1 of 2)

PART VI - EVALUATOR/DISPOSITION		LCN:
23. DATE OF REPLY	24. EVALUATOR (Name, Rank, DSN, E-Mail)	25. EVALUATOR'S SUPERVISOR (Name, Rank, DSN, E-Mail)
26. DISPOSITION <input type="checkbox"/> APPROVED <input type="checkbox"/> DEFERRED <input type="checkbox"/> ABEYANCE <input type="checkbox"/> ADVISEMENT <input type="checkbox"/> DUPLICATE <input type="checkbox"/> DISAPPROVED <input type="checkbox"/> OTHER	27. DISPOSITION/REMARKS	
28. IDEA BENEFITS ARE <input type="checkbox"/> INTANGIBLE <input type="checkbox"/> TANGIBLE - AMOUNT		
PART VII - CONTINUATION (Block Number)		

AFTO FORM 22, 20000324 (Reverse)

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Figure 5-1. AFTO Form 22, Technical Manual (TM) Change Recommendation and Reply (Sheet 2 of 2)

http://www.pdsim.wpafb.af.mil/toprac/22afmc.xls - Microsoft Internet Explorer								
File Edit View Insert Format Tools Data Go Favorites Help								
Back Forward Stop Refresh Home Search Favorites History Channels Tools Fullscreen Mail Print								
Address http://www.pdsim.wpafb.af.mil/toprac/22afmc.xls								
A	B	C	D	E	F	G	H	
Control Number	Local Control	Open Date	Status	Priority	Approval Date	Publication	Short Description	
2 229-141-	21m00e6lg905	23 Aug 1999	SAVED	Routine/CAT II		33D5-63-5-1	see attached afto 22	
3 229-141-	21m00tlac9201	03 Sep 1999	APPROVED	Routine/CAT II	03 Sep 1999	32A6-17-26-1	see attach AFTO 2-9201R. Table 5-3 Te	
4 229-141-	21m00tlac9155	03 Sep 1999	ADVICE	Routine/CAT II		33DA52-5-1	Pertaining to the 7370 noise monitor m	
5 229-141-	21m00tlac9155	16 Sep 1999	ADVICE	Routine/CAT II		33DA52-5-1	Pertaining to the 7370 noise monitor m	
6 229-141-	21m00tlac9176	17 Sep 1999	APPROVED	Routine/CAT II	17 Sep 1999	33DA52-5-1	Change frequency converter 5355A and H	
7 229-141-	21m0046lg906	17 Sep 1999	DISAPPROVED	Routine/CAT II		33D7-61-112-1	The steps reference the wrong steps.	
8 229-141-	21m0046lg909	22 Sep 1999	APPROVED	Routine/CAT II	22 Sep 1999	36D30-4-12-2	SEE ATTACHED AFTO	
9 229-141-	21m0046lg909	15 Jan 2000	APPROVED	Routine/CAT II	15 Jan 2000	36D30-4-12-2	SEE ATTACHED AFTO	
10 229-141-	21m00tlac9	22 Sep 1999	SAVED	Routine/CAT II		33D2-6-193-1	SEE ATTACHED AFTO	
11 229-141-	21m00tlac9	22 Sep 1999	SAVED	Routine/CAT II		33D2-6-193-1	SEE ATTACHED AFTO	
12 229-141-	21m00tlac9	22 Sep 1999	APPROVED	Routine/CAT II	22 Sep 1999	33D2-6-193-1	SEE ATTACHED AFTO	
13 229-141-	21m00tlac9	13 Jan 2000	APPROVED	Routine/CAT II	13 Jan 2000	33D2-6-193-1	SEE ATTACHED AFTO	
14 229-141-	21m00tlac9	23 Sep 1999	SAVED	Routine/CAT II		33D2-6-193-1	SEE ATTACHED AFTO	
15 229-141-	21m0046lg909	23 Sep 1999	SAVED	Routine/CAT II		33D7-38-273-2	SEE ATTACHED AFTO	
16 229-141-	21m0046lg909	23 Sep 1999	APPROVED	Routine/CAT II	23 Sep 1999	33D7-38-273-2	SEE ATTACHED AFTO	
17 229-141-	21m0046lg909	28 Dec 1999	APPROVED	Routine/CAT II	28 Dec 1999	33D7-38-273-2	SEE ATTACHED AFTO	
18 229-141-	21m0046lg909	23 Sep 1999	SAVED	Routine/CAT II		33D5-63-5-1	SEE ATTACHED AFTO	
19 229-141-	21m00tlac9	23 Sep 1999	SAVED	Routine/CAT II		33D5-43-5-1	SEE ATTACHED AFTO	
20 229-141-	21m00tlac9	23 Sep 1999	SAVED	Routine/CAT II		33DA21-1-111	SEE ATTACHED AFTO	
21 229-141-	21m00tlac9	23 Sep 1999	SAVED	Routine/CAT II		33D7-38-47-1	SEE ATTACHED AFTO (NOTE DATE OF CHA	
22 229-141-	21m0046lg909	23 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
23 229-141-	21m00tlac9240	24 Sep 1999	SAVED	Routine/CAT II		33A2-2-41-1	see attached afto	
24 229-141-	21m00tlac9	24 Sep 1999	SAVED	Routine/CAT II		33D4-6-332-11	SEE ATTACHED AFTO	
25 229-141-	21m00tlac9	24 Sep 1999	SAVED	Routine/CAT II		33D4-6-332-1	SEE ATTACHED AFTO	
26 229-141-	21m00tlac9	24 Sep 1999	SAVED	Routine/CAT II		33A2-2-48-1	SEE ATTACHED AFTO	
27 229-141-	21m00tlac9	24 Sep 1999	SAVED	Routine/CAT II		33D7-61-80-1	SEE ATTACHED AFTO	
28 229-141-	21m0046lg909	24 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
29 229-141-	21m0046lg909	24 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
30 229-141-	21m0046lg909	27 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
31 229-141-	21m0046lg909	27 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
32 229-141-	21m0046lg909	27 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
33 229-141-	21m0046lg909	27 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
34 229-141-	21m0046lg909	27 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
35 229-141-	21m0046lg909	27 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
36 229-141-	21m0046lg909	27 Sep 1999	SAVED	Routine/CAT II		33D7-6-261-4	SEE ATTACHED AFTO	
AFMC								
Local intranet zone								

Figure 5-2. TO Recommended Change Status List

APPENDIX A

LIST OF ACRONYMS

AAC	Air Armament Center (AFMC)
ACC	Air Combat Command
AD	Air Worthiness Directives
AETC	Air Education and Training Command
AFCA	Air Force Communications Agency
AFCESA	Air Force Civil Engineering Support Agency
AFI	Air Force Instruction
AFIT	Air Force Institute of Technology
AFLMA	Air Force Logistics Management Agency
AFMC	Air Force Materiel Command
AFMETCAL	(The) Air Force Metrology and Calibration (Program) (AFMC)
AFOTEC	Air Force Operational Test and Evaluation Center
AFPD	Air Force Policy Directive
AFRC	Air Force Reserve Command
AFRL	Air Force Research Laboratory
AFSAC	Air Force Security Assistance Center (AFMC)
AFSEO	Air Force SEEK EAGLE Office
AFSOC	Air Force Special Operations Command
AFSPC	Air Force Space Command
AFTO	Air Force Technical Order
AGE	Aerospace Ground Equipment
AGSE	Aerospace Ground Support Equipment
AGSEWG	AGSE Working Group
AIA	Air Intelligence Agency
ALC	Air Logistics Center
AMC	Air Mobility Command
ANG	Air National Guard
ARS	Air Rescue Service
ATOMS	Automated TO Management System
ATOS	Automated Technical Order System
CAGE	Commercial and Government Entity (Code)
CALS	Continuous Acquisition and Life-Cycle Support
CASC	Cataloguing And Standardization Center
CG	Computer Generated
C-E	Communications-Electronics
CLS/CS	Contractor Logistics Support/Contractor Support
CNWDI	Critical Nuclear Weapons Design Information
CONOPS	CONcept of OPERATIONs
COTS	Commercial-Off-the-Shelf (Hardware, Software or Manuals)
CPIN	Computer Program Identification Number
CSTO	Country Standard TO
CTOCU	Central Technical Order Control Unit
CTOM	Centralized Technical Order Management (Committee) (HQ USAF)
DAC	Designated Acquisition Commander
DCA	Defense Communications Agency

DDN	Defense Data Network
DFARS	Defense Federal Acquisition Regulations Supplement
DIC	Direct Image Copy
DID	Data Item Description
DMS	Defense Message System
DoD	Department of Defense
DP	Disaster Preparedness
DRU	Direct Reporting Unit
DSM	Development System Manager
DSN	Defense Switched Network
DT&E	Development Test and Evaluation
EF	Electronic Form
EOD	Explosive Ordnance Disposal
ES	Equipment Specialist
EWO	Emergency War Order
FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulations
FCF	Functional Check Flight
FMM	Flight Manual Manager
FMP	Flight Manual Program (FM Procedures, AFI 11-215)
FMS	Foreign Military Sales
FOA	Field Operating Agency
FRD	Formerly Restricted Data
FTE	Factory Test Equipment
FTORB	Flight TO Review Board
ICBM	InterContinental Ballistic Missile
ICS	Interim Contractor Support
ID	Initial Distribution
IDE	Integrated Digital Environment (Division, MSG/MMF)
IDEA	Innovative Development through Employee Awareness
IETM	Interactive Electronic Technical Manual
ILS	Integrated Logistics Support
IOS	Interim Operational Supplement
IPB	Illustrated Parts Breakdown
IPR	In-Process Review
ISS	Interim Safety Supplement
ITCTO	Interim Time Compliance TO
ITDS	Improved Technical Data System
ITO	Interim Technical Order
ITPS	Identifying Technical Publication Sheet
IWSM	Integrated Weapon System Management
JCALS	Joint Computer-Aided Acquisition and Logistics Support
JG	Job Guide
JNWPS	Joint Nuclear Weapons Publication System
LEP	List of Effective Pages
LID	Like Item Distribution
LOAP	List of Applicable Publications
LPO	Lead Project Office

MAJCOM	Major Command
MDS	Mission/Design/Series
MGM	Materiel Group Manager
MILSPEC	Military Specification
MIL-STD	Military Standard
MNS	Mission Need Statement
MPTO	Methods and Procedures TO
MSG	Material System Group (AFMC)
NAVEODTECHDIV	Navel EOD Technology Division
NC	Numerical Control
NDI	Non-Destructive Inspection
NSN	National Stock Number
O&M	Operation(s) and Maintenance
OJT	On-the-Job Training
OMB	Office of Management and Budget (DoD)
OPR	Office of Primary Responsibility
OT&E	Operational Test and Evaluation
PC	Product Center (AFMC)
PCR	Publication Change Request
PEO	Program Executive Officer
PGM	Product Group Manager
PIM	Product Improvement Manager
PLAD	Paperless LANTIRN Automated Depot
PMD	Program Managment Directive
PSD	Procedural Support Data
PTO	Preliminary Technical Order
QA	Quality Assurance
R&D	Research and Development
RD	Restricted Data
RGL	Reading Grade Level
RSP	Render Safe Procedures
RTO	Responsible Test Organization
SIR	Specification/Standard Interface Record
SATODS	Security Assistance TO Data System
SB	Service Bulletin
SCG	Security Classification Guide
SD	Schematic Diagram
SE	Support Equipment
SIPTO	Standard Installation Practices TO
SM	Single Manager (AFMC)
SMR	Source Maintenance Recoverability (Code)
SOW	Statement of Work
SPD	System Program Director (AFMC)
SPO	System Program Office
SSM	System Support Manager (AFMC)
S/S/SN	System/Subsystem/Subject Number
STE	Special Test Equipment

T&E	Test and Evaluation
TCM	Technical Content Manager
TCTO	Time Compliance TO
TDY	Temporary Duty
TM	Technical Manual
TMCR	Technical Contract Requirements (Document)
TMQA (P)	TM Quality Assurance (Plan or Program)
TMSS	TM Specifications and Standards
TO	Technical Order
TOCU	TO Control Unit
TODCA	TO Distribution Control Activity
TODO	TO Distribution Office
TOMP	TO Management Plan
TOPS	TO Page Supplement
TORB	TO Review Board
USAF	United States Air Force
VSP	Verification Status Page
WD	Wiring Diagram
WG	Work Group
WP	Work Package

APPENDIX B

TECHNICAL ORDER MANAGEMENT TRAINING PLAN

B-1 PURPOSE:

The purpose of this plan is to provide a comprehensive training outline capable of meeting the training needs of all Air Force TO managers. The plan includes a description of the training products available to TO managers, a listing of the OPR for each training product, and two On-The-Job Training (OJT) Syllabuses. One syllabus addresses training areas of concern to AFMC TO managers and the second addresses training areas relevant to MAJCOM personnel involved in TO acquisition activities.

B-2 TRAINING PREMISE:

TO management within AFMC encompasses TO acquisition, improvement/update, printing, distribution, and ultimately rescission. Using Command TO managers are involved in TO acquisition, improvement, and distribution. To meet the training needs of these diverse management functions, the training products were developed to be used in a modular format. This allows tailoring of the product to the particular area of TO management the trainee will be supporting. Training for TO managers should start at familiarization with basic TO management principles and build to more complex and specific TO management functions. The following is a suggested progression for training accomplishment:

B-2.1 Defense Acquisition Deskbook (DAD) – The Defense Acquisition Deskbook is an electronic knowledge presentation system providing the most current acquisition policy for all DOD Services and Agencies. Deskbook's extensive reference material includes information on the various functions, disciplines, activities and processes of the Department of Defense beginning with "User" requirements, flowing through concept development, program establishment, contracting, testing, production, sustainment, and ending with disposal. Deskbook's database includes over 1000 mandatory and discretionary policy documents, DOD and component discretionary practices, software tools and descriptions, front-line wisdom and advice, formats and samples. Deskbook is sponsored by the Deputy Under Secretary of Defense (Acquisition Reform), and the Office of the Under Secretary of Defense (Acquisition and Technology)/Acquisition Program Integration. The Defense Acquisition Deskbook originated from an Acquisition Reform Initiative to reduce directives while assisting managers to make informed decisions. The Deskbook may be accessed through the Internet at URL <http://www.deskbook.osd.mil>.

B-2.2 Air Force Institute of Technology System 230 Course – Two week course offered through the Air Force Institute of Technology (AFIT) held in-residence at Wright-Patterson AFB, or locally via a facilitator. Course offerings provide basic acquisition and integrated logistics support concepts, and TO specific acquisition and management principles. The course curriculum is targeted at newly assigned TO managers and managers of other logistics elements requiring basic knowledge of TO program management.

B-2.3 TO Acquisition and Sustainment (A&S) Computer Training (CBT) Course – A resident PC-based software product available for download via the World Wide Web (WWW) at the following address: "<http://www.pdsm.wpafb.af.mil/toprac/to-syste.htm>." This course provides detailed information on the concepts, policy and processes concerning specific topic areas of TO acquisition and sustainment. The TO A&S CBT is a very effective training tool and should be used during OJT or anytime as a refresher. It offers the flexibility of accomplishment at the work place during available time. Students review instructional text at their own pace, completing review questions to reinforce learning. The course runs from a Local Area Network (LAN) or standalone desktop computer. Minimum system requirements include an IBM compatible 386 computer (25 MHz), 4 MB of total RAM, 60 MB free on hard disk, Mouse (highly recommended), VGA monitor, and Microsoft Windows 3.1 or higher. The course consists of ten lessons that cover all aspects of TO management:

1. Air Force TO System
2. TO Acquisition and Development
3. Interface
4. Budget and Cost
5. Technical Manual Contract Requirements (TMCR)
6. Digital Data

7. TM Specifications and Standards
8. Time Compliance TOs (TCTOs)
9. Improvement and Update
10. Printing and Distribution

See paragraph B-3.2 for more information.

B-2.4 Seminar and Workshops – If it becomes evident that a special acquisition program, AFMC center, or TO policy training requirement exists, a unique workshop or seminar can be developed to address the issue. Workshops are structured to be an open forum discussions with a hands-on lesson on topics tailored to the needs of a specific TO management level or area. The workshop can be held on site or at select locations and structured commensurate with the time required to properly address the issue. Past workshops have addressed TMCR tailoring, TO policy updates, and Automated Technical Order Management System (ATOMS) functionality.

B-2.5 On-The-Job-Training (OJT)– OJT consists of actual performance of the TO management function under the supervision and guidance of experienced TO managers. OJT activities can include reading of policy and guidance, attendance at meetings, review of programmatic documents, and hands-on accomplishment of TO management functions. A comprehensive OJT program administered by supervisory personnel can provide detailed standardized instruction and guidance of the day-to-day job requirements. OJT is a long-term activity that should be accomplished in parallel with the above training activities.

B-2.6 Job Site Training (JST)– Training for field organization TO file custodians is available in CBT format. Prospective students or newly assigned TO Distribution Office or Account personnel should contact their local JST Point of Contact for details. See paragraph B-3.6 for more information.

B-2.7 AETC In-Residence Training; J3AZR2E066-007, Technical Order Account Custodian Course – Developed specifically for training TODO/TODA personnel. This four-day classroom instruction at Sheppard AFB includes modules on types of TOs, TO libraries, posting requirements, records maintenance, and ATOMS. The course provides an in-depth explanation of TOs 00-5-1 and 00-5-2.

B-3 TO TRAINING PRODUCTS ACCESS LIST:

The following are the Points of Contact/OPRs for TO training products:

B-3.1 Defense Acquisition Deskbook (DAD)

Defense Acquisition Deskbook Joint Program Office
2275 D Street, Bldg. 16
WPAFB OH 45433-7233
DSN: 785-0423 FAX: 785-4102
E-Mail: WWW: <http://www.deskbook.osd.mil>

B-3.2 TO Acquisition and Sustainment Computer Based Training (CBT) Course

AFMC Course #MWECIM003301CB (AFMCPAM 50-5)
IDE Division
MSG/MMF
4375 Chidlaw Rd Suite 6
WPAFB OH 45433-5006
DSN: 787-8218 FAX: 787-5881

B-3.3 AF Institute of Technology (AFIT) Courses

AFIT/LSY
2950 P St
Wright-Patterson AFB OH 45433-7765
DSN: 785-7777, ext 3294 FAX: 785-7105

B-3.4 Defense Acquisition University (DAU) Logistics Support Analysis Course, LOG 202

Commandant

U.S. Army Logistics Management College

ATTN: ATSZ-ATR

Fort Lee VA 23801-6041

DSN: 539-4965 FAX: 539-4663

B-3.5 TO Points of Contact Roster, TO Home Page (WWW), and Seminars/Workshops

MSG/MMF

4375 Chidlaw Rd Suite 6

WPAFB, OH 45433-5006

DSN: 787-8218 FAX: 787-5881

B-3.6 Job Site Training (JST) TO System Training Courses (TODO Personnel)

a. J6AZU00066-038 General TO System Course (CBT)

b. J6AZU00066-039 Advanced TO System Course (CBT)

B-3.7 AETC In-Residence Training (TODO/TODA Personnel)

362 TRS/RMQ

613 10th Ave.

Sheppard AFB, TX 76311-2352

DSN: 736-6488 FAX:

ANNEXES

Annex 1	On-the-Job Training Syllabus --Technical Order Manager
Annex 2	On-the-Job Training Syllabus --Using MAJCOM Personnel

pg B-3

pg B-13

ANNEX 1
ON-THE-JOB TRAINING SYLLABUS
TECHNICAL ORDER MANAGER

MONTH 1
Basic Technical Order Familiarization

Reading

AFPD 21-3, Technical Orders

TO 00-5-1, AF Technical Order System

TO 00-5-2, Technical Order Distribution System

TO 00-5-15, Air Force Time Compliance Technical Order System

TO 00-5-18, USAF Technical Order Numbering System

AFMCI 21-301, Air Force Technical Order System

TM-86-01, Technical Manual Contract Requirements (TMCR) document (Generic and tailored for the particular contract)

Trainee Familiarization

a. The trainee should become thoroughly familiar with the TO system as a whole and the specific types and uses of TOs. Basic understanding of the management system used to control TO improvement, update, printing, stocking, distribution, and rescission is essential.

b. The trainee must understand the local management structure and the responsibilities of fellow TO management personnel. This will help clarify the trainee's position within the organization and define duty responsibilities.

c. Contractor Relationships: Trainee will be briefed by the TO Manager for the program and the OJT instructor on the specific working relationships established with the applicable contractor(s). This will cover those topics which are within the responsibilities of the trainee and those topics which are to be referred to the TO Manager or a contracting officer.

d. The OJT instructor should ensure the TO Manager in training is briefed on the SPO functional responsibilities and interfaces with: Configuration Management, Data Management, Contracting, Integrated Logistics Support, Engineering, Manufacturing, Program Control, Projects, and Training.

MONTH 2
Basic Acquisition Familiarization

Reading

Program Management Directive (PMD)

Mission Need Statement (MNS)

Statement of Work (SOW) for the specific program

*AFI 63-101, AF Acquisition System Procedures AFMCMAN 21-1, AFMC Technical Order System Procedures, Chapters 1 and 2

*DOD 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs

TO 00-5-1, AF Technical Order System, Chapters 3 - 5

*TO 00-5-3, AF Technical Manual Acquisition Procedures, Chapters 1, 2, 3, and 4

Integrated Logistics Support Plan (ILSP)

DOD Index of Specifications and Standards (DODISS)

NOTE: Basic familiarity with location and content arrangement only.

Formal Training Requirement

AFIT Systems 100 Course: Introduction to Acquisition Management

Training Tool

* DAD

TO A&S CBT Guide, lessons 2 and 4 (CBT-2 and CBT-4)

Trainee Familiarization

a. The trainee should understand how an acquisition program is established from the basic user requirement as stated in the Mission Need Statement (MNS) to the Statement of Work (SOW). (CBT-4)

b. The OJT instructor should provide the trainee with the local procedures for conducting a data call and guidance conference. Basic knowledge is required of TO acquisition procedures and their impact upon future sustainment functions. (CBT-4)

c. The different types of TO reviews (In-Process Review, Validation, Verification, and Pre-Publication) and the role of the sustainment TO manager should be understood by the trainee. (TO 00-5-3)

d. The trainee should learn how to use the DAD.

e. The trainee should review the TO task breakdown structure of the DAD for all acquisition and sustainment phases.

f. The trainee should review the DOD requirement to acquire digital data and understand the process of evaluating TO data life-cycle costs. (DOD 5000.2R, CBT-4).

g. The trainee should become familiar with the DODISS to the extent necessary to locate a particular specification and verify its status. The trainee should understand the structure of the DODISS and identify the various sections of the DODISS. (CBT-2)

Trainee Participation

a. The trainee should participate in a program data call to observe the process of identifying TM requirements. Review of documentation from previous data call efforts may provide insight into the programmatic issues addressed during this requirements identification process.

b. The trainee should attend a TO guidance conference. Trainee should be aware of the program requirements that will ensure sustainment capabilities after conclusion of the acquisition portion of the program. If a guidance conference is not scheduled in the near future, then review of previous guidance conference minutes will provide information normally covered during a typical conference.

MONTH 3Identification of Interfacing Organizations and Associated DocumentationReading

* TO 00-5-3, AF Technical Manual Acquisition Procedures, Chapters 3, 4, and 5

* DOD 5000.2R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs

AFI 11-215, Flight Manuals Program (If required for your program)

Formal Training Requirement

AFIT System 230 Course: Air Force Technical Order Acquisition and Management

Training Tools

DAD

TO A&S CBT Guide, lesson 5 (CBT-5)

Trainee Familiarization

a. The OJT instructor will ensure the trainee is familiar with required interfaces: (CBT-5)

* – Documents available in the DADSUP.

(1) Using Command and/or Technology Repair Center (TRC): The main interface will be the defining and refining of TO requirements and TO verification.

(2) Supporting Activity: The main interface will be with the applicable ALC having TRC responsibility and the centralized TO management activity involved with sustainment functions.

(3) Contractor: The main interface will be for clarification of contractual requirements, oversight of the Quality Assurance Program and monitoring the TO/source data development.

(4) Defense Plant Representative: The main interface will be with the Administrative Contract Officer (ACO) and the Quality Assurance representative.

(5) (Central) Technical Order Control Unit (CTOCU/TOCU): The main interface will be the CTOCU management of the acquisition TO quality program as authorized by the TO Manager.

b. The OJT instructor will ensure the TO Manager in training is familiar with Memorandums of Agreement (MOAs), Memorandums of Understanding (MOUs) and Program Introductory Documents (PIDs) as they exist and affect the relationship among participating agencies. The MOA between the SPO/PO and the Defense Plant Representative, and the PID with the CTOCU are of particular interest.

MONTH 4

Acquisition Review Activities

Reading

AFPD 21-3, Technical Orders

TO 00-5-1, AF Technical Order System

*TO 00-5-3, AF Technical Manual Acquisition Procedures, Chapters 6 thru 10, Apdxx B and C

*AFMCPAM 800-60, Integrated Weapon System Management (IWSM)

TM-86-01, Technical Manual Contract Requirements (TMCR) Document

Training Tools

DAD

TO A&S CBT Guide, lessons 2, 3, and 4

Trainee Familiarization

a. The trainee should be familiar with the numerous reviews that occur during TO acquisition. The trainee must understand the purpose of each review and the appropriate agencies that participate. (TO 00-5-3, CBT-4)

b. The trainee must be able to create and coordinate the various management plans (e.g. TO Management Plan (TOMP) and TO Verification Plan (TOVP)) required to support TO acquisition management. To aid in development of these plans generic samples are available in TO 00-5-3.

Trainee Participation

a. The OJT instructor will ensure the trainee participates in a Technical Order Planning/Requirements Conference. This participation is to include tailoring of the appropriate Technical Manual specifications in accordance with TM-86-01 Preparation Instructions, paragraph 7, and utilizing the applicable Specification Interface Records (SIRs) of section 4. NOTE: The term "Technical Manual" (TM) includes TOs, commercial manuals, technical data, source data, etc. (CBT-2 and CBT-3)

b. The trainee will participate in the development of TM contract requirements through the tailoring of TM-86-01.

c. The trainee will review those interfaces that are essential to the successful completion of TM in-process reviews.

d. The trainee will participate in the planning, scheduling, interface actions and accomplishment of a TM in-process review.

e. The trainee will assist in the preparation and/or update of the Technical Order Management Plan (TOMP).

f. The trainee will assist in accomplishing a TO verification activity.

g. The trainee will assist in the preparation of a verification plan. This should consist of the research required to identify the applicable TMs, personnel requirements (by specialty and skill level), support equipment (SE) and consumables required, facilities and suggested location.

MONTH 5

Data Requirements Definition and Review Processes

Reading

*TO 00-5-3, AF Technical Manual Acquisition Procedures, chapters 6, 7, 8, 9, and 10

DOD 5010.12-M, Procedures for Acquisition and Management of Data

DOD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL)

*AFI 65-601, Vol. 1, Financial Management, Budget Guidance and Procedures

*AFMC Financial Management Handbook

DOD 5000.2R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs

*MIL-HDBK-245, Preparation of Statement of Work (SOW)

AFI 60-114, Contractor Data Management

*AFMCMAN xx-xxx (Draft), Acquisition Management/Acquisition Logistics Management

*AFMCPAM 63-104, IWSM Configuration Management Implementation Course

*AFMCPAM 64-102, AFMC Request for Proposal (RFP) Process Course

Training Tools

TO A&S CBT Guide, lessons 2 and 4

Formal Training Requirement

AFIT Systems 225 Course: Acquisition Logistics

Trainee Familiarization

a. The trainee must understand the different methods by which TO requirements are identified and how those requirements are reviewed and approved. This includes thoroughly defining specific requirements in preparation for review/approval at Data Requirements Review Boards, Support Equipment Review Boards, and Configuration Control Boards. (CBT-2 and CBT-4)

b. The trainee should understand their participation in the review process and their responsibility to defend the defined TO requirement. (CBT-2 and CBT-4)

Trainee Participation

a. Data Requirements: assist in the preparation of AF FORM 585 justifying requirements for TM management support data. (DOD 5010.12-M, AFI 60-114)

b. Trainee will complete DD FORM 1423, when required, in support of TO support data. (DOD 5010.12-M)

c. Data Requirements Review Board (DRRB): assist in preparation for and attend a DRRB.

d. Support Equipment Review Board (SERB): attend and review documents for review board.

e. Engineering Change Proposal (ECP)/Contract Change Proposal (CCP): assist in evaluation of an ECP/CCP and assist in preparation of comments/CCB presentation materials. (AFMCPAM 63-104)

f. Configuration Control Board (CCB): assist in preparation for and attend a CCB. (AFMCPAM 63-104)

MONTH 6

Integrated Logistics Support (ILS) and Supportability Analysis

Reading

*TO 00-5-3, AF Technical Manual Acquisition Procedures, chapter 3

*DOD 5000.2R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs

*MIL-STD-1388-1A and 2B, Supportability Analysis (Handbook under development)

NOTE: Trainee should read the introduction and become familiar with the requirement application.

*AFMCPAM 800-35, AF 1A/2B Supportability Analysis Primer *AFMCMAN xx-xxx (draft), Acquisition Management/Acquisition Logistics Management

Training Tools

TO A&S CBT Guide, lessons 4 and 5

Formal Training Requirements

Defense Acquisition University (DAU) LOG 202, Supportability Analysis Course

Training Familiarization

a. The OJT instructor will ensure the TO Manager in training is familiar with responsibilities for the ILS elements and their interface. This will include meeting the ILS Managers for each of the elements. (AFMCMAN xx-xxx)

b. The trainee will coordinate with the ILS manager responsible for Supportability Analysis and become familiar with the Supportability Analysis process as it applies to Technical Manual (Data) development. (CBT-4 and CBT-5)

Training Participation

a. The trainee will participate with the Supportability Analysis Manager in defining the Supportability Analysis requirements for the program in acquisition.

b. The trainee will participate in a Supportability Analysis review to ensure that the required TO source data is accurate and available for TO development.

c. The trainee should attend an Supportability Analysis in-process review (IPR) of the Supportability Analysis "C" tables.

d. The trainee should participate in an Integrated Logistics Support Management Team (ILSMT) meeting, as well as a Depot Maintenance Activation Working Group (DMAWG) meeting.

* – Documents available in the DAD.

MONTH 7

CFAE/CFE Notice Processing, TO Numbering and TCTO

Reading

AFMCMAN 21-1, AFMC Technical Order System Procedures, Chapters 1, 2, 4, and 6

AFMCI 21-302, Processing Interim Technical Orders

TO 00-5-1, AF Technical Order System, Chapter 3

TO 00-5-2, Technical Order Distribution System, Chapter 2

TO 00-5-15, AF Time Compliance Technical Orders

TO 00-5-18, USAF Technical Order Numbering System

DI-TMSS-80067, Technical Manual CFAE/CFE Notice

TM-86-01, Technical Manual Contract Requirements, section 1, Part F

Formal Training

(None)

Training Tools

DAD

TO A&S CBT Guide, lessons 1, 2, 4, and 7

Trainee Familiarization

a. The trainee should become familiar with the requirements of the CFAE/CFE Notice DID, DI-TMSS-80067 and the procedures utilized in the evaluation of submitted notices. It is important to understand the different formats used to submit CFAE/CFE notices and the essential information items required on the notice. The procedures used to access the need for the requested data must be fully understood by the trainee. (CBT-4)

b. The trainee must understand how to prepare approval/disapproval letters on CFAE/CFE notices or other contractual matters for the Procuring Contract Officer's (PCO) signature.

c. The assignment, control, tracking, and management of TO numbers is an essential step in the development of TOs. The trainee should review TO 00-5-18 and the usage of ITIES in the review of existing TO for future number assignment. (CBT-4, CBT-7, TO 00-5-2, AFMCMAN 21-15)

d. The trainee must be familiar with the conditions that form the basis for TCTO development and selection of appropriate TCTO type. Knowledge of forms usage must include; appropriate form selection, form functionality, data element information sources, and routing sequence. (CBT-1, AFMCIs 21-301 and 302, TO 00-5-15)

e. The trainee must become familiar with and assist in the preparation of an Advance Change Study Notice that has Technical Manual (Data) impact. (CBT-4)

Trainee Participation

a. The trainee should assist in the evaluation of a CFE/CFAE notice.

b. The trainee will assist in the TO number assignment process to include accomplishment of the AFMC Forms 203/204. (AFMCMAN 21-1)

c. The trainee will assist in the development, finalization, routing, and tracking of a TCTO. (TO 00-5-15, AFMCIs 21-301 and 302)

d. If possible, the trainee should either witness or attend a TCTO kit-proofing effort. (TO 00-5-15)

MONTH 8AFTO FORM 22, AFMC FORM 252, Print Package, TO ReprintsReading

AFMCMAN 21-1, AFMC Technical Order System Procedures, Chapter 1, 2, and 3

AFMCI 21-302, Processing Interim Technical Orders

TO 00-5-1, AF Technical Order System, Chapter 5

*TO 00-5-3, AF Technical Manual Acquisition Procedures, Chapter 9 & 10

DODD 5330.3/AF Sup, The Defense Automated Printing Service (DAPS)

AFI 11-215, Flight Manual Program

Training Tools

DAD

TO A&S CBT Guide, lessons 4 and 7

Trainee Familiarization

a. Technical Order change requests are submitted to recommend changes to TOs. The trainee should review the different types of change requests (emergency, urgent, routine) and understand the associated

* – Documents available in the DAD.

unique processing requirements. The trainee should consult local guidance for unique processing methods utilized at his/her center. The OJT trainer should identify how the trainee's function fits into the total TO improvement approval/implementation process. This includes the accomplishment of the AFMC FORM 252 and the associated update and printing of TO changes. (TOs 00-5-1 and -3, AFMCI21-301, AFI 11-215)

b. TO printing/reprinting management is a complex process. The TO manager must be able to coordinate with numerous outside agencies to accomplish printing of TOs. The trainee must know printing process POCs and the roles and responsibilities each play in the printing process. (TO 00-5-3, DODD 5330.3/AF Sup, CBT-7)

c. A critical part of the print management process is the quality review of the reproducible package. The package is reviewed prior to submission to the printing agency. The trainee should understand the review procedure, the critical inspection items, and the process for correcting deficient products. (CBT-4)

Trainee Participation

a. The trainee should actually perform the procedural steps in the Technical Improvement Report process. This should include the evaluation of the AFTO Form 22, accomplishment of the AFMC Form 252, development of the TO update, review of the print package, and the routing to the appropriate print agency.

MONTH 9

TO Distribution, Processing AFTO FORMs 187, ATOMS

Reading

TO 00-5-2, Technical Order Distribution System, Chapters 3 and 4

TO 00-5-2-2 and -102, Automated Technical Order Management System (ATOMS) users manual and software

Formal Training

JST General and Advanced TO System Courses (see paragraph B-3.6)

Training Tool

TO A&S CBT Guide, lesson 7

Trainee Familiarization

a. The trainee should understand how TODO codes are assigned and how to complete the AFTO Form 43 to request or change TODO codes. (TO 00-5-2, CBT-7)

b. The trainee must understand how ATOMS is used to maintain TO account requirements and distribution records, and to prepare TO Publication Requests. (TOs 00-5-2, -2-2, and -2-102)

c. The trainee should understand the process by which ID labels are requested and received. Knowledge of the various JCALS products associated with the distribution process, TO Catalogs, DD Form 1348, Account and TO ID Summary Listings is required. (AFMCMAN 21-1, TO 00-5-2)

MONTH 10

Requisition Processing, Freedom of Information, Release of TOs to Public, and Release Under AFI 61-204

Reading

TO 00-5-2, Technical Order Distribution System, Chapters 4, 5, 6, 7, 10 and 11

*TO 00-5-3, AF Technical Manual Acquisition Procedures, Chapter 13

DOD 5200.1-R and AFI 31-401, DOD Information Security Program Regulation

DODD 5230.24 and AFI 61-204, Controlling the Distribution of Classified and Unclassified Scientific and Technical Information

AF Supplement to DOD 5400.7-R, DOD Freedom of Information Act (FOIA) Program.

Trainee Familiarization

a. The trainee should understand the process involved in TO requisitions submitted by field organizations. Both manual and automated requisitions must be understood. Requisitions can include requests for Classified, Unclassified, Foreign Military Sales, Special Weapons, and Country Standard TOs. (TOs 00-5-2, -2-2, and -2-102)

Month 10, Trainee Familiarization - continued

b. The trainee must understand the legal rights of individuals to request information including TOs under the Freedom of Information Act. Knowledge of the proper forms usage and evaluation criteria is required. The trainee must be able to properly screen and evaluate information requester's qualifications to receive data. Proper control log book usage is stressed. (AF Supplement to DOD 5400.7-R, DODD 5230.24, TO 00-5-2)

c. The trainee must be able to evaluate/calculate the cost of the requested information and request payment from the requester. (AFI 37-131)

Trainee Participation

a. The trainee should assist in screening of Freedom of Information Act TO requests and log book usage. The trainee should calculate costs of numerous TO request to gain insight into cost variances.

b. The trainee should actually process a TO requisition through all of the steps from processing computer generated shipping labels through processing emergency requests.

MONTH 11

TO Budget, Contractor Proposal

Reading

*TO 00-5-3, AF Technical Manual Acquisition Procedures, Chapters 3 and 5

AFMCMAN 21-1, AFMC Technical Order System Procedures, Chapters 1 and 2

ASCPAM 800-7, Acquisition Management One-hour Course to Fact-finding and Technical Evaluations

Training Tools

DAD

TO A&S CBT Guide, lessons 4 and 6

Trainee Familiarization

a. The trainee must be familiar with the budgeting process used to estimate TO sustainment fund requirements. Analysis of programmatic requirements and establishment of critical priorities is an essential part of the funds manager's job. If funding shortfalls occur, unfunded requirements will be briefed and alternative funding sought. (TO 00-5-3, CBT-4)

b. The trainee must know how to evaluate contractor proposals. Evaluation will include analysis of hours, costs and determination program requirement fulfillment. The trainee should understand the procedures that must be followed and forms used to process the proposal for approval. (ASCPAM 800-7, CBT-6)

Trainee Participation

a. The trainee should assist in the processing of a TO budget estimate.

b. The trainee should assist in the evaluation/approval of a contractor proposal, to include accomplishment of proper forms documentation.

MONTH 12

ATOS

Reading

AFPD 33-2, Command, Control, Communications, and Computer Systems Security

AFI 33-202, The Air Force Communications Security (COMSEC) Program

Trainee Familiarization

a. The trainee must understand the functionality of ATOS. This requires knowledge of how to access the ATOS database, capture text, edit/manipulate data, save data, and produce camera ready copy.

b. The trainee should be familiar with basic computer security procedures. The trainee must also understand the requirements for monthly reporting to HQ AFMC.

MONTH 13

CALS, JCALS, and DIGITAL DATA

Reading

*DOD 5000.2R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs

DODI 5000.1, Defense Acquisition

Defense Acquisition Deskbook, Section 3.7, Continuous Acquisition and Life-cycle Support (CALS)

MIL-STD-1840, Automated Interchange of Technical Information

MIL-D-28000, Digital Representation for Communication of Product Data: IGES Application Subsets and IGES Application Protocols

MIL-M-28001, Markup Requirements and Generic Style Specification for Electronic Printed Output and Exchange of Text

MIL-R-28002, Raster Graphics Representation in Binary Format, Requirements for

MIL-D-28003, Digital Representation for Communication of Illustration Data: CGM Application Profile

MIL-STD-38784, Manuals, Technical: General Style and Format Requirements

Training Tool

TO A&S CBT Guide, lessons 2 and 3

Trainee Familiarization

a. The trainee should understand the Continuous Acquisition and Life-Cycle Support (CALS) concept and the strategy employed by DOD to migrate from manual paper-intensive defense system operations to integrated, highly automated acquisition and support processes. (DOD 5000.2R, CBT-2)

b. The trainee should be familiar with the Integrated Weapon System Data Base concept and how it functions as an integral part of the CALS strategy. (CBT-4)

c. The trainee must understand the digital data acquisition requirements as defined within DOD 5000.2 and how these requirements are translated into the TMCR. (DOD 5000.2R, CBT-4)

d. The trainee must be familiar with the digital data creation, access, and delivery requirements as defined within MIL-STD-1840. A basic familiarization of the standards for data format include: Raster, Vector, Standard Generalized Markup Language (SGML), and Computer Graphics Metafile (CGM). (MIL-STD-1840, 28000-series MILSPECS)

e. The trainee must understand how to evaluate digital data cost effectiveness over the life-cycle of a military/commodity system.

* – Documents available in the DAD.

f. The trainee must be familiar with the Joint Computer-aided Acquisition Logistics Support (JCALS) system functionality and infrastructure. This will include how JCALS supports TO acquisition, management, improvement, publishing, and distribution. (DAD, Section 3.7)

Trainee Participation

- a. The trainee will participate in tailoring a TMCR for the acquisition of digital data.
 - b. The trainee will participate in analyzing the cost of digital data over the life-cycle of a military/commodity system.
 - c. The trainee will review the lessons learned from programs that have previously acquired digital data.
-

MONTH 14

OJT INSTRUCTOR'S END OF COURSE EVALUATION

The OJT instructor and TO Manager-in-training will review training accomplishments to:

- a. Ensure TO Manager has completed mandatory training requirements
 - b. Evaluate results of training
 - c. Prepare recommended course improvements, as applicable
 - d. Ensure new TO Manager's training records and training database are updated
 - e. Identify and schedule residual training requirements
-

ANNEX 2

ON-THE-JOB TRAINING SYLLABUS USING MAJCOM PERSONNEL

MONTH ONE

Basic Technical Order Familiarization

Reading

AFPD 21-3, Technical Orders TO 00-5-1, AF Technical Order System

Program Management Directive (PMD)

Mission Need Statement (MNS)

Statement of Work (SOW) to include TM-86-01

Organizational Documents

AFPD 39-29, Personnel Standards of Conduct

*DOD 5000.2R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information system (MAIS) Acquisition Programs

Training Tools

DAD

TO A&S CBT Guide, lessons 2 and 4

Trainee Familiarization

a. The trainee should review the above documents to gain an overview of the Technical Order System as a whole and the management documents of the acquisition program(s) they are to support. Understanding basic program requirements is a critical foundation on which to build proper MAJCOM program support. (CBT-2 and CBT-4)

b. The trainee should be familiar with the DOD documents that prescribe the policy and procedures for the acquisition of technical data. These DOD documents set the requirements for program definition and documentation.

c. The trainee should also review all organizational documents (organization charts, local operating instructions, etc.) that define how the MAJCOM organization supports acquisition programs.

d. The trainee should understand the standards of conduct and ethics involved with Government/Contractor relations. Issues which must be addressed are, the impact of attending interchange meetings at contractor facilities, accepting gratuities, and the appearance of impropriety.

MONTH TWO

Basic Acquisition Guidance

Reading

DOD 5010.12-M, Procedures for the Acquisition and Management of Technical Data

*TO 00-5-3, AF Technical Manual Acquisition Procedures

TM-86-01, Technical Manual Contract Requirements Document

TO 00-5-15, Air Force Time Compliance Technical Order System

TO 00-5-18, USAF Technical Order Numbering System

TO 00-5-19, Security Assistance Technical Order Program

Training Products

* – Documents available in the DADSUP.

DAD

TO A&S CBT Guide, lessons 2 and 4

Trainee Familiarization

a. The trainee should thoroughly understand the acquisition process/procedures as defined in TO 00-5-3. Of particular importance are the program responsibilities of the using command. The responsibilities of the MAJCOM in relation to all other program support organizations (AFOTEC, Test Activities, AETC, etc.) should be defined by the System Program Office TO Manager. (CBT-4)

b. The trainee should obtain a listing of organizations, POCs, telephone, and FAX numbers for all program participants.

c. The trainee must be familiar with the contents of the TMCR as tailored for trainee's program. (CBT-2, Program's TMCR)

d. The DAD should be reviewed for the relevant sections on Using Command participation in acquisition programs.

e. The CBT modules on TO Development and TMCR tailoring should be used to provide insight as to the process and importance of establishing complete and accurate TM requirements in the SOW and TMCR. (CBT-2 and CBT-4)

MONTH THREE**Specific Acquisition Procedures****Reading**

MIL-M-38784, Manuals, Technical: General Style and Format Requirements

MIL-STD-1808, System/Subsystem/Subject Number (S/S/SN) Numbering System

MIL-M-87929, Manuals, Technical: O&M Instructions in Work Package Format

MIL-M-83495, Manuals, Technical: On-Equipment Set, Organizational Maintenance

Manuals; Detailed Requirements for Preparation of

MIL-M-38807, Manuals, Technical: Illustrated Parts Breakdown, Preparation of

MIL-M-7700, Manuals, Flight

Other Program-Specific MILSPECS

Formal Training Requirement

AFIT Systems 230, Technical Manual Acquisition and Management

Training Tools

TO A&S CBT Guide, lessons 2 and 3

Trainee Familiarization

a. The trainee should review the Technical Manual Specifications and Standards (TMSS) relevant to their program. A clear understanding of the specification requirements, maintenance concept, and operational concept is necessary to evaluate the adequacy of the technical manuals in development.

b. The trainee should attend the AFIT Systems 230 course to gain knowledge on the TO management system in general and TO acquisition processes specifically.

* – Documents available in the DADSUP.

MONTH FOUR**Specific Acquisition Activities****Reading**

TO 00-5-3, Air Force Technical Manual Acquisition Procedures

Samples of Documents from existing programs:

- a. Verification Plans
- b. Validation Plans
- c. Technical Order Management Plans
- d. Technical Manual Status and Schedules
- e. Specification Interpretation Document (SID)
- f. TM 86-01 and Specification Interface Record (SIR)
- g. Minutes from IPRs, Validations, Verifications

Training Tools

TO A&S CBT Guide, lesson 4

Trainee Familiarization

- a. The trainee should review program documents from existing acquisition programs to gain insight to issues commonly addressed during acquisition.
- b. Particular attention must be paid to TO conference and review meeting minutes and comment tracking methods utilized within the trainee's specific program. Familiarization with TO contract deliverable requirements is necessary.

Trainee Participation

- a. The trainee should attend and observe typical acquisition activities (IPR, Verification, etc.) to gain first hand exposure to the TO development environment.
-

GLOSSARY

A

- ACCURACY**--A publication is accurate if it is free of errors (correct procedural steps, in the correct order, parts data that match parts used, etc).
- ADEQUACY**--A publication is adequate if it permits the intended users to do their job in accordance with the approved maintenance or operational concept (read and understand all materials to a level that results in successful task performance).
- AUTOMATED TECHNICAL ORDER MANAGEMENT SYSTEM (ATOMS)**--The ATOMS is a computer program which is designed to assist TODOs in accomplishing record-keeping functions associated with TO distribution. The computerized AFTO FORM 110, TECHNICAL ORDER/CPIN Distribution Record, system eliminates the need to maintain hard copy AFTO Forms 110 and AFTO Forms 131, Technical Order Index Routine and Annual Check records. ATOMS software, TO 00-5-2-102, with the ATOMS User's Guide included, is available through the TO System Information Page (paragraph 1-1.2) and is published on CD-ROM TO 00-CD-1.
- AUTOMATED TECHNICAL ORDER SYSTEM (ATOS)**--The computerized system used by ALCs for the storage, retrieval and maintenance of TOs. ATOS is capable of producing both digital and hard copy reproducibles.

B

- BLOCK CYCLE UPDATE (BCU)**--Periodic TO updates consolidating changes from all sources for publication. BCUs for TOs published and distributed as a set on CD-ROM or other high-density medium will be synchronized to the medium's publishing cycle. BCU periods will be determined by the SM in conjunction with the Lead Command, but will not exceed 365 days.

C

- CENTRAL TECHNICAL ORDER CONTROL UNIT (CTOCU)**--A TO acquisition-phase agency responsible for the TO QA program under the direction of the TO Manager. Its location and management shall be determined by the TO Manager (TO 00-5-3). The CTOCU normally includes representatives from AFMC, the using command and the contractor. The CTOCU is no longer authorized after completion of the acquisition phase without the express written agreement of the SPD and using command(s).
- COMMERCIAL MANUALS**--Commercial Manuals fall into two broad categories, defined below:
- COMMERCIAL-OFF-THE-SHELF (COTS) MANUALS**--COTS manuals are those technical publications developed by vendors to support their commercially-available products, and may include users manuals, parts lists, schematics, etc. Generally, COTS manuals do not require Verification.
- MILITARY COMMERCIAL MANUALS**--These manuals are developed to commercial specifications (e.g., ATA-100 for aircraft manuals) for support of systems and commodities developed specifically for the military. When they will be used by government personnel, these manuals must be verified just like Military Specification manuals.
- COMMODITY**--A designated item, subsystem, or system which is not identified as a weapon system. Commodities are grouped into Product Groups or Materiel Groups which possess similar characteristics and applications benefitting from similar developmental, acquisition, and logistics support management processes. **INTEGRATED COMMODITIES** are so tied to a weapon system that separate management is not feasible.
- COMMAND CONTROL POINT (CCP)**--The MAJCOM office or delegated activity responsible for review and approval of AFTO Forms 22 on a designated system, commodity, or specialty area.

GLOSSARY - Continued

C (Cont)

CONCURRENT RELEASE--Publishing of all media for a TO is funded, reproduction is in progress, and distribution is assured.

CONFIGURATION MANAGED EQUIPMENT--Equipment that reflects the current configuration of military systems and/or commodities currently in the Air Force operational inventory. This equipment requires the use of the latest TO information as listed in the appropriate TO Catalog.

D

DEVELOPMENT SYSTEM MANAGER (DSM)--The lead individual at a Product Center when an SM located at a Logistics Center delegates a specific development task to the Product Center. The DSM reports directly to the SM.

E

ERRATA SHEETS--Cover sheets used to transmit TO pages either inadvertently omitted from or misprinted in distributed TO increments. The pages being sent out via errata sheet must NOT include any TO changes, no matter how minor. The errata sheets will list the pages included and the actions to be taken to post them to the affected TO.

F

FLIGHT MANUAL MANAGER (FMM)--The individual responsible for managing the technical content of FMP publications. This includes initial acquisition and verification, maintenance, and periodic reviews.

FLIGHT TECHNICAL ORDER REVIEW BOARD (FTORB)--The FTORB will review and approve updates to FMP PTOs and recommend formalization after verification and flight certification. The board will be jointly chaired by the VTM and the FMM and will include at least three rated aircrew members, flight-rated contractor engineers, and other personnel as required. The FTORB is no longer authorized after completion of acquisition unless specifically agreed to by the FMM and using command(s).

FORMAL TO--Military Specification (MILSPEC)-developed TOs that have been sufficiently verified to make them usable for operation and maintenance, and which are printed and available for distribution in the TO System. Until they are fully verified, they must contain a verification status page, identifying those functions that have not been verified. Formal TOs include commercial manuals accepted for Air Force use and assigned a TO Number.

H

HEALTH HAZARDS PRECAUTION DATA--When hazardous chemicals or adverse health factors in the environment cannot be eliminated, appropriate precautionary requirements shall be included in TOs according to MILSPEC MIL-M-38784.

I

INITIATOR--The individual who identifies a discrepancy or deficiency in the TO System and prepares the documentation and recommended change for submission to the final approving authority.

INTEGRATED WEAPON SYSTEM MANAGEMENT (IWSM)--Empowering a single manager with authority over the widest range of military system program decisions and resources to satisfy customer requirements through the life cycle of that system. This is the AFMC management philosophy for all military systems and commodities.

GLOSSARY - Continued

J

JOINT COMPUTER-AIDED ACQUISITION LOGISTICS SUPPORT (JCALS)--The DoD system for managing technical information, including TOs. JCALS is being developed and procured by the Army for use by all DoD elements.

L

LIKE ITEM DISTRIBUTION (LID)--Distribution using a label deck based on ID for the parent or other similarly-used TO for the same weapon system, equipment and classification.

M

MAJOR COMMAND--The highest-level activity responsible for management, operation and command control of a military system or commodity. As used in this TO, major command includes FOAs and Direct Reporting Units (DRUs).

MATERIEL GROUP--A Materiel Group consists of those systems, subsystems, and items which do not fall into the categories of Weapon or Military Systems or Product Groups. They are primarily differentiated from Product Group assets in that they do not require a standing development capability. Materiel Groups are normally assigned consolidated sustainment management to achieve economies of scale and specialization of technical and engineering expertise.

MATERIEL GROUP MANAGER (MGM)--The single manager for a Materiel Group, who has the same responsibilities as a System Program Director or Product Group Manager for the assigned materiel (AFMCPAM 500-11).

MILITARY SPECIFICATION MANUALS--These are TMs and TOs developed according to Military Standards and Performance Specifications.

MILITARY SYSTEM--The generic phrase used to describe the systems developed and supported by AFMC and to which IWSM is applicable. The specific definition is: "A discrete stand-alone collection of systems and related resources which, in conjunction with user support and operation, provides a capability to accomplish a specific military mission."

N

NONCONFIGURED EQUIPMENT--Equipment that is representative of but does not reflect the current configuration of vehicles or systems in the Air Force operation inventory. The latest issues of the TO information compatible with the specific items of equipment are mandatory for use with this equipment; publication date will not necessarily be listed in the TO Catalog (chapter 2, paragraph 2-6.12).

P

PRELIMINARY TECHNICAL ORDERS (PTOs)--PTOs are produced in limited quantities for Air Force personnel to review and approve the contents during acquisition, and for development of initial training packages (TO 00-5-3).

PRODUCT GROUP--A compilation of several specific commodities in all life-cycle phases, characterized by an on-going development requirement and a much larger cumulative sustainment effort.

PRODUCT GROUP MANAGER (PGM)--The single manager for a Product Group, who has the same responsibilities as a System Program Director or Materiel Group Manager for the assigned products (AFMCPAM 63-3).

GLOSSARY - Continued

P (Cont)

PRODUCT IMPROVEMENT MANAGER (PIM)--The individual or office at an activity responsible for the quality and continuous improvement of the activity's operations and maintenance of assigned equipment (formerly "Quality Assurance" or "Quality Control.")

R

RAPID ACTION CHANGES (RACs)--Emergency or Urgent TO Changes distributed electronically to correct safety hazards or prevent mission degradation and work stoppages. RACs are formatted like routine TO Changes using the digital TO file's composition software to allow seamless merging with the basic TO file. If the RAC is not composed for seamless merging, regardless of presentation format (page- or non-page-oriented), the data must be directly accessible via hyperlink to and from the affected location in the TO.

S

SHALL, WILL, SHOULD, MAY--In TOs the word "shall" is used to express a provision that is binding. The words "should" and "may" are used when it is necessary to express non-mandatory provisions. "Will" may be used to express a mandatory declaration of purpose or when it is necessary to express a future event.

SINGLE MANAGER (SM)--The generic term encompassing System Program Directors (SPD), Product Group Managers (PGM), and Materiel Group Managers (MGM) (see definitions).

SYSTEM PROGRAM DIRECTOR (SPD)--The individual in an AFMC SPO who is ultimately responsible and accountable for decisions and resources in overall program execution. The single face to the user who oversees the seamless process. SPD is the designated title for the single manager of a program who reports to a Program Executive Officer (PEO) or Designated Acquisition Commander (DAC) (AFMCPAM 500-11).

SYSTEM PROGRAM OFFICE (SPO)--The integrated AFMC organization responsible for cradle-to-grave military system management.

SYSTEM SUPPORT MANAGER (SSM)--The lead individual at the Logistics Center responsible for support when the SM is located at the product center. The SSM reports directly to the SM.

T

TECHNICAL CONTENT MANAGER (TCM)--The individual or office responsible for the accuracy, adequacy, modification, classification and review of TO procedures, engineering data and the related technical contents of a TO. TCMs are not generally responsible for style and format or other nontechnical aspects of manuals.

TECHNICAL DATA--Technical data is defined in public law as "recorded information (regardless of the form or method of recording) of a scientific or technical nature (including software documentation) relating to supplies procured by an agency. Technical data does not include computer software or financial, administrative, cost or pricing, or management data or other information incidental to contract administration." This definition includes engineering data, source data and TO data (for example, schematic diagrams, flow diagrams, manufacturer's handbooks, manuscripts of O&M instructions, PTOs, commercial TMs, R&D TMs, and other system or equipment O&M procedures developed under AFMC or other acquisition agency directions during the system acquisition phase). Avoid use of this term when referring to specific types of data.

GLOSSARY - Continued

T (Cont)

- TECHNICAL MANUAL (TM)**--A document that contains operational or maintenance instructions, parts lists or parts breakdown, or other related technical information or procedures (exclusive of administrative procedures) for a weapon system, weapon system component, support equipment, or other item procured by DoD. This data may be presented in any form (e.g. hard copy, audio and visual displays, magnetic tape, disks, or other electronic devices). Technical Order (TO) is another term used for technical manual.
- TECHNICAL MANUAL CONTRACT REQUIREMENT (TMCR) DOCUMENT, TM-86-01**--The document approved for use by the Department of the Air Force to acquire TOs. It fully describes statement of work criteria for contractor program management, TO Quality Assurance, TO development and update, TCTOs, delivery instructions, generic tailoring of the approved standards and specifications, and the requirements of ATOS.
- TECHNICAL ORDER (TO)**--TMs developed to MILSPECs or commercial manuals reviewed and approved in accordance with MIL-M-7298, managed in the Air Force TO System, and meeting the criteria for TMs listed above. The term "Technical Order" is equivalent to the DoD term "Technical Manual."
- TECHNICAL ORDER MANAGER**--As used in this TO, refers to either the individual manager or agency responsible for managing the TO portion of a specific military system or commodity program. TO Manager responsibilities include acquisition, update, publishing, storage and distribution of TOs and related technical data in accordance with AFPD 21-3 and 00-5-series TOs. When acquisition is being performed by a TO Manager assigned to a Product Center, the prime ALC TO Manager will provide policy direction, coordination and support for the program.
- TECHNICAL ORDER REVIEW BOARD (TORB)**--Designated supervisory-level personnel who review and approve recommended TO changes during the acquisition phase and recommend formalization of PTOs. The TORB will be chaired by the TO Manager and/or VTM and include representatives from the using command, ALC and contractor. Engineering, safety and QA personnel may participate in an advisory capacity. The TORB is no longer authorized after completion of the acquisition phase without the expressed written agreement of the SPD and using command.
- TECHNICAL ORDER CONTROL UNIT (TOCU)**--Unit(s) under the direction of the CTOCU, whose primary function is to implement, manage, and control the TO QA program at a particular site and/or field location.
- TECHNICAL ORDER FILE**--One or more TOs maintained by individuals or offices for continuing use. Authorized TO files (TO 00-5-2) require distribution of all TO updates to ensure included TOs are current.
- TECHNICAL ORDER SYSTEM**--The Air Force specialized publication system established by AFPD 21-3 for the acquisition, management, publication, filing, and use of technical manuals to be used for operation and maintenance of centrally-procured Air Force military systems and commodities.

U

- USING COMMAND**--The command which operates and/or maintains military systems or commodities.

GLOSSARY - Continued

W

WARNING, CAUTIONS, AND NOTES--Unless otherwise specified in content MILSPECs, warnings and cautions shall precede the text but follow the paragraph heading to which they apply. Notes may precede or follow applicable text, depending upon the material to be highlighted. Warnings, cautions, and notes shall not contain procedural steps, nor shall the headings be numbered. When a warning, caution or note consists of two or more paragraphs, the heading WARNING, CAUTION, or NOTE shall not be repeated above each paragraph. If it is necessary to precede a paragraph with warnings and/or cautions and/or notes, they shall appear in this sequence. They shall be short, concise and emphasize important and critical instructions.